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## AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place,

New York.

JANUARY 1, 1893.

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## THE INSTALMENT PLAN.

There are more forces at work for the good of this old world than the world wots of, and some of them come in such guise that we entertain them, like angels, unawares. For a matter of two thousand years Christianity and philosophy have struggled with what is called for another name, the social problem, and have found no better solution for the same than the divine institution of the family. The civilization of the nineteenth century, however, has surrounded this institution with ever-increasing difficulties. It would seem that the nest should precede the bird, the home the family, and many a man and woman have wasted all their youth in waiting to obtain it.

The hearth has ever been considered the symbol of the home, and the stove is its modern substitute. Now, when advertisements are seen, announcing that a cooking stove may be purchased on the payment of but a single dollar a week, it would seem that he must be a poor apology for a

man who cannot buy one, and gather about it such household goods as may be necessary. Thus a home, a part of that which is acknowledged to be the basis of all good government, is established, and that advertisement of a stove to be purchased on the instalment plan is one solution of the vexed social problem.

As time goes on, around these necessities of life its luxuries inevitably gather. Twenty-five years ago a piano was in the possession only of the well-to-do; now it is within the reach of all save the very poor, and one hears in almost every house the musical tinkle of a piano. The young daughter of the family, her love of music increased by its study in the public school, her ambition aroused in that nursery of equality, has been eager in her entreaties for a piano. Her parents have been no less eager to gratify her, the instalment plan has come to their aid, and the coveted treasure is a part of their home. Not one in the family but would make any sacrifice to meet the payments which surely, if gradually, make it their own.

In the winter evenings a pretty group of young folks gather about the instrument, and perhaps a tall lamp sheds its rosy light over it. A little apart sit the father and mother watching the delight of their children in luxuries which their own childhood never dreamed of. Perhaps the mother wears an apron, and the father is in evening dress, which displays the sleeves of his shirt rather than its entire front, but in time the piano will eliminate the apron and introduce the coat. All sorts of refinements will gather about it; bookshelves will supplement it; delicate napery will find its way to the dining-table; by and by the piano will be found to have outgrown its quarters, and must e'en have a house built for it.

Perhaps the habit of saving has by this time become so thoroughly inculcated that the house may be a distant possibility, but the system of "easy payments" makes it a present comfort. By this means it is entirely possible for any man of ordinary thrift to satisfy not only the home craving which is his world-wide inheritance, but the land hunger which is our English birthright. The American instalment plan is our best antidote for the French apartment fever, for a man likes to sit under his own vine and fig tree be they ever so small dimensions.

There is a phase of this ever-increasing system against which many people set their faces as a flint; they object to the purchase of clothing upon credit. There is a gospel of good clothes, which in all missionary work is found to be next to needed food, the strongest lever for uplifting the mind. Little ones in the poorest wards of the city, children who have never known a childhood, whose very games are but a pitiful, mirthless travesty of play, when bathed, fed and cleanly clothed, become different beings, self-respecting, amenable to reason and disposed to do right.

Good clothing, obtained by any honest means, begins immediately its ministry of good. Great care must be exercised lest the garments wear out before others can be obtained; the brush and the needle will be used as never before, and habits of thrift once established are not easily relin-

quished. Rarely does one now see a barefooted child upon the street, even during the warm months, and an inspection of our city school-rooms will show very few children who have not made some attempt at smartening their appearance.

People once respectably housed and clothed are not likely to sink below that level, or half so likely to disgrace it, for the ranks of crime are not largely recruited from the comfortable class. So does the race forge surely on and upward, often by means which seem but doubtful blessings.

Thus the *Boston Globe* discourses on the pleasant side of this important question. There is, alas, another and very serious side to it.

To say nothing of the evil tendencies of the credit system in household affairs, the temptation to buy things not really needful, just because they can be obtained on credit, never giving a thought that the payments will come due and have to be met, we desire to call the attention of our readers to the fact that generally houses who sell goods on the instalment plan buy the cheapest goods, which can be made to look like first-class goods, charge enough on the first cash payment to cover their outlay, and then depend upon the future payments for an enormous profit. They lose but little, as they always take an iron-clad chattel mortgage for the balance due, and, in default of prompt payment, foreclose this mortgage and seize the goods, although they have been, perhaps, almost entirely paid for at their real value; but so long as any portion of the purchase price is unpaid, they have the legal right to seize them, and thus have the goods and all money paid besides. Our advice is to avoid all instalment plan purchases.

## WHAT THEY SAY OF US.

The "AMERICAN ANALYST" closed its eighth volume with the issue of last week. The mission of the ANALYST is to promote purity in all sorts of manufactured products, and especially to protect mankind from the greed of the adulterator; or, failing to protect, to warn. The field is certainly large enough to furnish plenty of work, and the more raking over it receives the better for the public.—*Hotel Mail*.

## TO SUBSCRIBERS AND READERS.

Subscribers' attention is called to the great variety of interesting and instructive subjects treated in this number. We respectfully ask the co-operation of our subscribers in extending our subscription list, which will enable us still further to increase the value of the AMERICAN ANALYST to them.

The casual reader is specially requested to examine this number carefully.

All are kindly requested to peruse this number thoroughly.

The AMERICAN ANALYST can be had at any news stand in the United States. Any newsdealer will take orders for it, the American News Company being our wholesale agents. All postmasters will receive subscriptions.



## HOUSEHOLD.

### ROAST DUCK STUFFED WITH APPLES.

BY LENORE CONGDON SCHUTZE.

A duck for roasting should not be older than one year, preferably a female, and well fattened.

Wash well inside and out, and dry with a soft cloth, then rub the inside with salt and pepper. Slice medium sour apples after you have pared them until you have enough to fill the duck. Mix the juice of one lemon with a teaspoonful of flour, roll the sliced apples in the mixture. Pick over and wash half a teacupful of sultana raisins, put a few raisins in the duck, then a few slices of the apple, then more raisins and more apple until the duck is filled, then sew it as for other stuffing. If very sour apples are used the flour may be mixed with water; moderately sour apples with lemon juice will be found much nicer. The duck's neck should be cut off and the skin tied over it, and the wings bound to the body. Rub the outside of the duck with salt and pepper, and place in the roasting pan with the usual amount of water.

The time for roasting a duck is an unsettled question, and will of course depend upon taste. I have found that two hours' roasting in a moderate oven is a good rule, though some recommend an hour and a half, and others think forty minutes enough.

The odor of a duck roasted with apple stuffing is a feast in itself. Let the anchorite but smell it and he will "turn to earth again his weary soul" long enough to eat duck dinner anyway.

What is left over of roast duck can, if the bones were not too closely picked, be made into an excellent dish. Cut every bit of meat from the skeleton of the duck and put it to one side. Crack the bones and put them in a stew-pan with bits of skin, also the apples and raisins if any are left. Skin the head and feet of the duck and add them, also a large tomato, a sliced onion, a small sliced carrot, a few bits of celery, salt, pepper, and a very small quarter of a teaspoonful of paprika or rose pepper. Cover with water and let it stew a couple of hours very slowly, a longer time will do no harm. In another saucepan brown enough butter and flour together to make a good sauce for the meat. Strain the liquid from the stew, and add it to the flour and butter. Sift the vegetables and add them. Let this boil up and then add the bits of duck meat and serve as soon as they are well heated through.

This is a very nice dish if well made, and the men of the family will probably advise, as one husband did, that the whole duck be fixed that way in the first place.

The merits of paprika as an occasional seasoning for meat dishes is not generally understood. It is also called Hungarian or Spanish pepper, and can be purchased put up in tin boxes. The box I have is marked E. Maluwitz, Pesth, Paprika, and it cost two shillings. It should be very sparingly used, as a little goes a great way. It gives an odd and pleasant flavor to meat dishes made with sauce. It is nice for stews, especially if onion or tomato are the vegetables used.—*London Housewife*.

### PLEA FOR THE MORE LIBERAL USE OF BUTTER.

No dietetic reform would, I believe, be more conducive to improved health among children, and especially to the prevention of tuberculosis, than an increase in the consumption of butter. Our children are trained to take butter with great restraint, and are told that it is greedy and ex-

travagant to eat much of it. It is regarded as a luxury, and as giving relish to bread rather than as in itself a most important article of food. Even in private families of the wealthier classes, these rules prevail at table, and at schools and public boarding establishments they receive strong reinforcements from economical motives. Minute allowances of butter are served out to those who would gladly consume five times the quantity. Where the house income makes this a matter of necessity, there is but little more to be said than that it is often a costly economy. Enfeebled health may easily entail a far heavier expense than a more liberal breakfast table would have done. Cod liver oil costs more than butter, and it is besides often not resorted to till too late. Instead of restricting a child's consumption of butter, I would encourage it. Let the limit be the power or digestion and the tendency to biliousness. Most children may be allowed to follow their own inclinations, and will not take more than is good for them. The butter should be of the best and taken cold. Bread, dry toast, biscuits, potatoes, and rice are good vehicles. Children well supplied with butter feel the cold less than others, and resist the influenza better. They do not "catch cold" so easily. In speaking of children I by no means intend to exclude other ages, especially young adults. Grown-up persons, however, take animal fats more freely than most children do, and are besides allowed much freer selections both as to quality and quantity. It is not so necessary to raise any clamor for reform on their account.—*Hutchinson's Archives of Surgery*.

### HOW TO MAKE BANDOLINE.

Rose bandoline for the hair is made of gum tragacanth, one and one-half ounces; water two pints; attar of roses, one dram. Steep the gum in the water for a day or so; as it swells and forms a gelatinous mass, it must from time to time be well agitated. About forty-eight hours after squeeze it through a coarse, clean linen cloth, and again let it stand for a few days; then press through the cloth a second time to insure uniformity of consistency; when this is the case, the attar of roses is to be thoroughly incorporated. Almond bandoline is made as above, substituting attar of almonds in the place of roses.

### SOUPS, VEGETABLES, ETC.

**TOMATO SOUP.**—Equal quantities of water and tomatoes cut in slices; cook until tender (at least forty-five minutes), and strain. To each quart make a paste of two tablespoonfuls of flour, one of butter, one teaspoon of sugar, and one of salt. Mix with a little of the soup until smooth, and stir into the soup. Let boil a moment and serve. If the sour taste of tomatoes is disliked, dissolve a piece of soda the size of a pea in hot water, for every quart of the soup.

**PEA SOUP.**—Shell one-half peck of peas; put them on the stove covered with water; boil until tender; take out one cupful of the peas and press the rest through a sieve; add to this one pint of milk and the cup of peas; boil once more, stirring in for thickening one tablespoonful of butter and one of flour; add salt and pepper to taste.

**CELERY SOUP.**—Five heads of celery; one pint of good stock; three pints water; one-half pint of cream or good milk. Any ends of celery you may not care to use on the table will do for this soup. Cut them into inch pieces, and put on the fire in the water to cook until very tender. Take

out the celery and pulp it through a sieve; add the stock and let it stew slowly half an hour. Then stir in the cream; let it get very hot, but not to boil again, and serve.

**NOODLE SOUP.**—For the noodles take one egg; a little salt; four tablespoonfuls of sweet milk; two even teaspoonfuls of baking powder; flour to make it stiff enough to roll out. Roll them and cut in fine strips, adding to any soup stock, and cook twenty minutes.

**CORN FRITTERS.**—Grate green corn from the cob and allow one and one-half eggs for every cupful and a tablespoonful of milk. Stir well together, beating the eggs hard, and add a teaspoonful of melted butter to every pint of corn. Thicken with just enough flour to hold them together, using one teaspoonful of baking powder, and fry as doughnuts.

**MACARONI CREAM.**—Cook the macaroni until nearly done; turn off the water and add milk to nearly cover, and salt. Stew until done, taking care not to burn. In another saucepan heat a cup of milk; thicken it with a beaten egg, and season with salt and butter and pepper. When thick as cream place the macaroni; serve with the cream on top.

**CARPETS.**—Dark carpets do not need to be swept oftener than light ones if you give them a good dusting, say, twice a week, with a flannel cloth tied around an ordinary broom.

**OIL STAINS.**—When one has been so unfortunate as to get machine oil stains on white sewing saturate the piece of work in cold water immediately, soak for two hours, dry in the sun, then wash in the usual way.

**WHERE TO PUT HOOKS.**—If you are building, put the hooks in children's bedroom closets low enough to be easily reached by them. It is also a good idea to have a closet so arranged that rocking-horse and all large playthings can have a place.

Dust has such a sad way of insinuating itself wherever there is a place for it to lodge or work through, that housekeepers are almost distracted to find brooms and dusters that will fit in every nook and crevice. A long-handled feather duster, a short-handled feather duster, a toy broom, a whisk broom, a flat bristle brush, a paint brush, and the ordinary cheese cloth dusters seem to do all the dusting that is required, if vigorously wielded.

**OLD CLOTHES.**—It is a mystery to many people how scourers of old clothes can make them almost as good as new. Take, for instance, a shiny old coat, vest, or pants of broadcloth, cassimere, or diagonal. The scourer makes a strong, warm soapsuds and plunges the garment into it, souses it up and down, rubs the dirty places, if necessary puts it through a second suds, then rinses it through several waters and hangs it to dry on the line. When nearly dry he takes it in, rolls it up for an hour or two, and then presses it. An old cotton cloth is laid on the outside of the coat and the iron passed over that until all the wrinkles are out; but the iron is removed before the steam ceases to rise from the goods, else they will be shiny. Wrinkles that are obstinate are removed by laying a wet cloth over them and passing the iron over that. If any shiny places are seen they are treated as the wrinkles are; the iron is lifted while the full cloud of steam rises and brings the nap up with it. Cloth should always have a suds made specially for it, as if



washed in that which has been used for white cotton or woollen clothes, lint will be left in the water and cling to the cloth. In this manner we have known the same coat and trousers to be renewed time and again, and have all the look and feel of new garments. Good broadcloth and its fellow cloths will bear many washings and look better every time because of them.

## ADULTERATION.

### LICORICE ADULTERATION.

How English laws are carried out, is exemplified in the following extract from a British journal.

At the Southwark Police Court before Mr. Marsham, on the 26th ult., E. J. Doidge, 78 Bermondsey New Road, wholesale confectioner, was charged under the Sale of Food and Drugs Act, with having sold for licorice a confection usually known as licorice-pipe, the same not being of the nature and substance of the article asked for.

John Barker said that at the instance of Inspector Thomas, he went to the shop of the defendant on September 16th last and asked for 1 lb. of licorice. He was served by a girl. He paid for the article and gave it into the hands of the inspector, who came into the shop after the purchase. In answer to the defendant, he said he paid 6d.; he did not know what licorice was.

Henry Thomas (inspector under the Sale of Food and Drugs Act) said he sent the last witness into the shop. He saw the girl and Mr. Doidge. He said he was an officer of the Vestry, and wanted the licorice for analysis. He divided the purchase in the usual way, and sent one portion to the public analyst, who certified on the certificate produced that the article purchased contained 50 per cent of licorice extract and 50 per cent of starch and other foreign matters.

Mr. Doidge said the first witness asked for licorice-pipes. The girl who served the article was not in court. She was a new hand. She showed the purchaser a box of the licorice-pipes, and asked him, "Would that do?" and he said, "Yes." The witness denied this.

Mr. Marsham: There is an article known as licorice, is there not?

Mr. Doidge: They asked for licorice, and the girl naturally thought the licorice-pipes were licorice.

Richard Bodner, public analyst to the Bermondsey Vestry, said he had examined the sample purchased, and gave the certificate produced.

Mr. Marsham: What is licorice?

Mr. Bodner: There is the licorice-root, and the more or less pure extract. He should have understood that the purchaser wanted the extract called "Solazzi" in the trade. An ordinary person going into a shop and asking for licorice would mean that extract.

Mr. Marsham: I think he did. He certainly did not say "unadulterated," and you did not give him any label upon it to say it was half starch.—Fined 20s., and 12s. 6d. cost.

### ADULTERATION OF FOOD

In an address delivered before the Chemical Society of Washington, the retiring president, Mr. Edgar Richards, said, that from want of reliable information in regard to the materials employed in most new food products, there is a general feeling of uncertainty and insecurity on the subject. People as a rule, imagine that any substance used as an adulterant of, or a substitute for, a food product, is to be avoided as of itself

being injurious to health; and when they hear that a certain food is adulterated, or is a food-substitute, there is immediately a prejudice excited against the article, which it takes time and familiarity to allay. A moment's reflection ought to show that it would be directly contrary to the food manufacturer's interest to add to, or substitute anything for, a food product which would cause injurious symptoms, as in that case his means of gain would be cut off by the refusal of consumers to buy his product. It is true that the unscrupulous manufacturer or dealer does not hesitate to cheat his customer in the interest of his own pecuniary profit or gain, but he does not want to poison him. Where, by carelessness or ignorance, injurious substances, such as arsenic, copper, aniline, and other metallic and organic poisonous salts sometimes used for artificial colors, are added to foods, their presence is promptly revealed by the dangerous symptoms which they call forth in the consumer. About a year ago some Philadelphia bakers added chromate of lead to color their cakes, and caused the death of several persons, and serious illness in nearly every one who ate any of these products.

The great majority of substances used for food adulterants or substitutes consist of cheap and harmless substances, which are not injurious to health, as the following list of those most commonly met with in the products will show. This list has been compiled from the reports of the State Boards of Health, the returns of the British Inland Revenue Department, the reports of the British Local Government Board, and those of the Paris Municipal Laboratory.

#### FOOD PRODUCTS AND THEIR CHIEF ADULTERANTS.

Food Product.	Adulterant.
Milk.....	Water, removal of cream, addition of oleo-oil or lard to skimmed milk.
Butter....	Water, salt, foreign fats, artificial coloring matter.
Cheese.....	Lard, oleo-oil, cottonseed-oil.
Olive Oil....	Cottonseed and other vegetable oils.
Beer.....	Artificial glucose, malt and hop substitutes, sodium bicarbonate, salt, antiseptics.
Syrup.....	Artificial glucose.
Honey.....	Artificial glucose, cane sugar.
Confectionery....	Artificial glucose, starch, artificial essences, poisonous pigments, terra alba, gypsum.
Wines, liquors. . . . .	Water, spirits, artificial coloring matter, fictitious imitations, aromatic ethers, burnt sugar, antiseptics.
Vinegar.....	Water, other mineral or organic acids.
Flour, bread . . . . .	Other meals, alum.
Baker's chemicals.....	Starch, alum.
Spices.....	Flour, starches of various kinds, turmeric.
Cocoa and chocolate.....	Sugar, starch, flour.
Coffee.....	Chicory, peas, beans, rye, corn, wheat, coloring matter.
Tea . . . . .	Exhausted tea leaves, foreign leaves, tannin, indigo, Prussian blue, turmeric, gypsum, soap-stone, sand.
Canned goods.....	Metallic poisons.
Pickles.....	Salts of copper.

The use of flours and starches of various kinds—wheat, corn, rye, peas, beans, etc.—as food adulterants, cannot be considered injurious to health. However much the people may be cheated in the purchase of such adulterated articles of food, the ground spices, coffee, etc., they are not poisoned by their consumption. It is a question how much the purchaser is himself to blame, in his endeavor to secure a "bargain," when he demands so great a quantity of any given material at less than it can be purchased at wholesale in the market, that he compels the unscrupulous manufacturer to make a compound

which has never more and generally less than the proportion of the genuine material represented by the price.—*R. I. Bulletin.*

### POISONOUS HAIR RESTORERS.

It is a notorious fact that many of the "hair washes" or "hair restorers" on the market contain hurtful ingredients. This fact has often been brought out by State analytical chemists. The ingredients are of various kinds and degrees of hurtfulness. It appears from the following, taken from the *Lancet*, that arsenic is one of them, although its use in such nostrums must be very infrequent: "A patient suffering from premature baldness had consulted a 'hair doctor,' and had been given a hair wash. Catarrhal symptoms set in about a fortnight after first using the wash, and continued without intermission up to five months. The hair wash was examined and found to be heavily charged with arsenic. Within a few days after leaving off this pernicious application the symptoms began to abate and gradually disappeared." The public, as a rule, is very ignorant as to the causes and true nature of baldness, also as to the essential remedies. They should know that the medicinal agents which have any salutary effects whatever upon the trouble are very few indeed, and with the most, if not all of them, intelligent druggists are thoroughly familiar. The bald person who desires to restore the growth of hair should consult some specialist, being advised by his family physician whom to seek. If he will not do this, then he should go to some reliable druggist and ask him to prepare a restorative for him. The chances are that he will in that way obtain something infinitely better than any secret preparation of the sort on the market, and he may feel quite secure against harmful ingredients.

### ADULTERATED CARBOLIC ACID.

Dr. Van Hamel Roos declares, in the *Revue des Falsifications*, that a very large percentage of the crude carbolie acid of commerce, which is sold upon the basis of containing 50 per cent of phenol does not contain on an average over 11 per cent of that ingredient. In fact, that figure (11 per cent), was the mean of a large number of assays. This "crude acid" is used almost entirely for disinfecting purposes, and the consumption of it in Europe during the late cholera scare was enormous. It will easily be seen what an immense reward the dishonest manufacturers have reaped from the public by this outrageous swindle. The French government has already moved in the matter, and other governments will follow suit.

## MEDICAL.

### POULTICES.

Among the many domestic remedies that are in daily use, poultices take the chief place. And very useful remedies they are, but they are also very injurious if they are abused. Poultices are applied for the purpose of relieving pain, and the soothing effect of heat and moisture is often very marked. For instance, when applied to the side, when the patient is suffering from pleurisy, or inflammation of the lungs, the pain is eased by a poultice almost more than by anything else. In such circumstances most people will apply one, with or without the advice of a doctor; and if applied carefully, so as not to chill the patient, they cannot possibly do harm. But even a poultice requires some skill in applying, or more harm



than good may be done. We have often seen one so carelessly applied that the patient's linen was made quite wet, and so after a while, chilliness and shivering were brought on, and, as a consequence, the chest mischief increased. Dry poultices have the advantage over wet in this respect—that they never chill; but, on the other hand, they do not relieve pain so quickly as moist poultices. It is heat and moisture which seem to do the good; besides, they retain their heat better when moist than when dry. To prevent any injurious effect they should not be made too thin, and a piece of oiled silk, mackintosh or dry flannel should always be placed between the poultice and the patient's clothes. They should be applied as hot as can be borne; and where they have to be applied constantly a second should be in readiness to be applied the moment the other is getting cold. Of course if properly covered, the poultice will never get colder than the patient's skin, but to be of much use they should be kept considerably warmer.

It matters little what material a poultice is made of—linseed meal, oatmeal, bran, spongopiline, or anything that will retain heat and moisture. For a dry poultice, bran or salt answers as well as anything. Dry poultices are usually made in a flannel bag, put in the oven and so made hot, two being in use, so that no time be lost when changing them.

The evils of poulticing are seen when applied to a whitlow or other gathering of the fingers. The popular idea seems to be to keep on applying a poultice as long as any discharge comes away. This not only applies to discharge from a finger, but a discharge coming from any part of the body, as from a boil, carbuncle or abscess. As a general rule, poultices do harm when applied for more than twelve hours to any wound that discharges, and should never be used for a longer period, unless under medical advice. For a wound will continue to discharge as long as a poultice is applied, as it breaks down the tissues and so creates a discharge. In the case of the finger we have often seen poultices applied till they have broken down the bone and brought it away in pieces. This often pleases the poulticer, the piece of dead bone being to her an evidence that the bone was dead and should come away, whereas it was most probably the poulticing that destroyed the life of the bone and then brought it away. Anyone can bring away a piece of dead bone from any finger if they only poultice long enough.

The modern treatment which is a more rational as well as a more successful one, is never to poultice anything after it has once broken and discharged itself, but instead to apply some strong antiseptic powder, such as iodoform. This purifies the wound, causes absorption of the hardened edges, and speedily causes the wound to heal. Poultices make the sound skin sodden, enlarge the wound, and consequently delay healing. Dry antiseptic dressing avoids all this.

#### MUSTARD POULTICES.

Mustard poultices or plasters are used for a different purpose; they are used rather to give than relieve pain. They are intended to draw the pain to the surface, or, by what is called counter-irritation, to redden and enlarge the blood vessels on the surface and, as it were, draw the inflammation which is enlarging the blood vessels within, to the outside. This is done through the medium of the nerves, though its precise action is imperfectly understood. That it does relieve pain there is no doubt.

A mustard poultice should be made with cold water, as warm water will weaken the action of

the mustard and send off the volatile oil. It should be made rather stiff, and put between two folds of thin muslin. It should be kept on from ten to twenty minutes, according to the ability of the patient to bear it. A mustard leaf is a convenient form of applying the mustard, though some think it is more painful and irritating than the pure mustard. A good deal depends on the mustard used, much of the mustard in the market being adulterated with flour. This is of little use for medical purposes, so only the best mustard should be used. Mustard and linseed meal are often applied together. For this it will suffice to merely sprinkle a little mustard on the surface of the linseed meal poultice just before it is applied. It is only a waste of mustard to mix them up together.

#### TURPENTINE.

This is the other counter-irritant in constant use. The best way of applying it is to wring out a piece of flannel out of water as hot as can be borne by the hand, then sprinkle a teaspoonful or more of turpentine on the flannel and apply direct to the skin. Dry flannel will not cling to the skin, and if enough turps is used to make it do so, it will be too strong for the patient. There is often a question as to whether mustard or turpentine should be used in a given case. Our practice is to use the turpentine if the pain is of a rheumatic nature, and if it is not, then the mustard; or if the mustard fails, to use as an alternative some turpentine.—*Pop. Med. Monthly.*

#### OFFSPRING OF MULATTOES.

Observations extending over a period of thirty years concerning the morbid proclivities of mulattoes are embodied in a paper by Dr. W. A. Dixon, in the *Medical News*. Living close to the boundary separating the old slave States from free States, the author has had peculiar facilities for studying his subject at length. Fifty years ago and more, it was the custom of wealthy planters, as they advanced toward age, to liberate such portions of their "estate" that bore to them a filial relationship, and establish these in homes in localities where good treatment, consideration, and respect due to citizens could be secured. Thus in Southern Ohio there grew up a community of mulattoes, the offspring of men of wealth and position, who themselves represented the best New England stock. These pure mulattoes were tall, muscular, well-developed, complete types of physical perfection, many living to old age, sometimes to one hundred years. Proud of their parentage and light skin, they took for wives women who were also half white. Prosperity and pride held them aloof from the negroes. Their children intermarried, and their race continued until the fourth generation, when these families gradually became extinct. The offspring of the first cross were robust; those of the second paler, more ashlike in complexion, slight in figure, evincing predisposition to, and characteristics of, tubercular disease; while in the second and third generation of pure mulatto intermixture all the children were girls and notably sterile. The fourth generation proved even less fertile, and presented cutaneous affections, ophthalmia, rachitis, hydrocephalus, hip and knee-joint disease, and various glandular abnormalities.

These facts would seem to prove the affirmation of ethnologists, that human hybridity cannot be maintained without reversion of fresh supply from parent blood. Such a type can only have an ephemeral existence. In the second and third generation of pure mulatto blood the offspring were inferior in vitality and intelligence,

and consequent morality. Their churches, independent school houses, their very names, in time disappeared. Some form of tuberculosis gradually undermined and extinguished them. The statement is made that when purity of race is maintained in civilized or barbarous countries, there is but little or no tuberculosis. And the dismal suggestion of ethnologists, cited by Broca, is given in full, to make us shudder or pause, according to temperament; to wit: "the United States, where the Anglo-Saxon race still predominates, but which is overrun by immigrants of various other races, is by that very circumstance threatened with decay, inasmuch as their continuous immigration may have the effect of producing a hybrid race containing the germs of disease, degeneration, and future sterility." The writer of the paper forcibly remarks that it is wise as well as necessary to look beyond the bacillus for cause resulting in tuberculosis, crime, idiocy, and insanity. Purity of race is one safeguard against constitutional inferiority that brings with it lessened mental and moral vigor.—*Pop. Science News.*

#### CARBOHYDRATES IN VARIOUS FOODS.

Juergensen (Copenhagen) gives this table: Milk, 4.8; cream, 3.5; buttermilk, 3; whey, 5; butter, 0.8; fresh curd, 2.05; rice, 76; wheat flour, 73; rye and barley flour, 72; oatmeal, 64; peas, 53; beans, 51; sago, 82; cane sugar, 95; potatoes, 20; carrots, 9; cauliflower, 11; spinach, 3.5; cabbages 5.5; fresh apples, pears and cherries, 12; fresh plums, 8; goose and strawberries, 7.5; turnips, 10; asparagus, 2.5; string beans, 7; dried apples, pears, 58; dried cherries, 45; prunes and raisins, 62; liver sausage, 6.5; pea sausage, 29.5; blood sausage, 25; frankfort sausage, 2; weissbier, 6.5; porter, 7; kumys, 2; rice milk, 24; scrambled eggs, 1.5; omelette soufflé, 25.5; kefir, 2; rye bread, 48; wheat bread, 52; zwieback, 77; noodles 77; macaroni, 77; cake chocolate, 68.

#### ALBUMINOID MATTERS CONTAINED IN DIVERSE ARTICLES OF FOOD.

Animal Food.	Albuminoid Matters.
Butcher's meat,	19 per cent.
Fowl,	20 "
Game,	22 "
Fish,	17 "
Egg,	13 "
Milk,	4 "
Cheese,	30 "
Vegetable Food.	
Bread,	8 "
Oatmeal,	12 "
Rice,	6 "
Green peas,	6 "
Potatoes,	2 "
Carrots and turnips,	1 to 2 "
Green vegetables and salads,	1 to 2 "
Fresh fruit (excluding nuts),	0.5 to 1 "

#### CHEESE.

##### ITS EFFECTS ON HEALTH.

Cheese is formed of a mixture of curdled milk and butter, pressed, salted and dried. In general nourishing it is not suited to weak stomachs. Bread and cheese alone constitute a meal very difficult of digestion. What makes it so indigestible is the toughness and tenacity of its particles. It is claimed that cheese aids digestion of other foods, and there is an old proverb which says: "Cheese digests everything but itself." It is probable that the efforts of the stomach to dissolve the cheese act on the less digestible substances



which are at the same time digested. But the use of cheese is sometimes unwholesome, and may lead to cutaneous eruptions. The casein, or the curdled milk, which is the basis of cheese, greatly resembles albumen in its composition.—*Journal de la Sante.*

### CONDENSED MILK.

#### AN ENGLISH MEDICAL VIEW.

As a large number of young children are brought up on condensed milk, it is of great importance for mothers to see that they get it really good. There is no article of diet where fraud can be so easily practiced as in the manufacture of so-called Swiss milk. Every mother knows, or should know, that the important part of the milk for the prevention of rickets is the fat or cream, and when the milk is skimmed previous to use, or to condensing it, it is utterly useless as an article of diet. This is now well recognized as a fertile source of rickets, especially amongst the poor, who are induced by the extra cheapness to purchase worthless brands of condensed milk. The following is taken from the Annual Report of the Local Government Board (1891-92):

With regard to condensed milk, it seems necessary to repeat the warning contained in our last report against the use of inferior brands of this article. In several cases the analyses show that inferior sorts are made from skimmed milk, and possess very slight nutritive qualities. The analyst for the Strand district reports as follows on this subject:

"One example contained 1.50 per cent fat. The original milk from which it had been prepared had therefore been deprived of at least 80 per cent of its fat. For infants it was recommended that the milk should be diluted with from eight to thirteen times its bulk of water. The consequence of feeding a child on such a mixture would be *semi-starvation*."

Similarly the analyst for Kensington reports that a sample was wanting in at least 90 per cent of its fat, and that the directions given on the label as to dilution would, if followed, result in producing a weak liquid, which, if used as the sole food for infants, would undoubtedly be seriously injurious to their health. No doubt plenty of condensed milk is sold which has not been tampered with in this fashion, and it is important that the public should be taught to reject that which has been deprived of nearly all nutritive value.

Here is an analysis of various brands of condensed milk, made by Dr. Dyer, Secretary to the Society of Public Analysts, more especially with reference to the fat (*i. e.* cream) contained in them:

Brand.	Percentage of fat.
Milkmaid (Swiss).....	11.95
Milkmaid (English).....	10.63
Rose Brand.....	10.28
Shamrock (Irish).....	2.72
Calf (Irish).....	2.33
Daily (Dutch).....	2.25
Anchor (Saxon).....	1.96
Swiss Dairy (Irish).....	1.63
Goat (Irish).....	1.54

The above analysis speaks for itself, and will be a guide to our readers.

### MOSAIC LAWS ON MEAT SANITATION.

The great sanitary importance of the Mosaic laws for a pastoral people pitching their tents on the open, grassy plains, and living, in a sense, in common with their vast flocks and herds, is manifest without argument. The parasites and contagia that they usually harbor increase

and dominate in exact ratio with the close aggregation of their hosts—human and brute—and the facility of their transmission from one to another. The prohibition falls first on those flesh feeders that are the most likely to reciprocate with man in the maintenance of parasites and infections. Then it denounces the sick as especially dangerous, and, finally, that which dies full of blood and is correspondingly liable to early putrefaction. The prohibition of blood was probably ritualistic rather than sanitary in its object, yet we need not ignore the experience of Signol, who showed that the portal blood of a suffocated horse contained a poison that could be conveyed from horse to horse with fatal results through several successive generations.

The simple avoidance of the dead body and uncooked meat in the case of many early peoples, though showing a similar precautionary tendency, is far less effective than the prohibitions of the Jewish code. We can still observe the good fruits of the latter in the comparative immunity of the Israelite from such diseases as trichinosis, the pork tapeworm and tuberculosis.

These examples of tribal hygienic laws, however well suited to an age in which the knowledge of disease and its causation was but as a glimmering spark of fire are sadly antiquated and ineffective in the strong electric glare of the nineteenth century; yet even now our hygiene of meats, as applied to our stockyards and markets, is far behind that which the Jews have practiced for over 3000 years.—*Prof. Law of Cornell, in Dietetic Gazette.*

**A COMPLICATED CASE.**—One of our physicians recently received the following letter from a country physician (?): "Dear dock I hav a pashunt whos phisicol sines shoes that the windpipe was ulcerated of and his lung have dropped into his stummick. He is unable to swoller and I feer his stummick tube is gon. I hav give hym evry thing without effectt. His father is welthy On-erable and influenshial. He is an active member off the M. E Chirsch and god nos I dont want to loose hym. what suall I due. ans. buy returne male, yours in neede."—*Ex.*

**LIKE OTHER FOLKS.**—Clem—How's de doctah gettin' on, Rastus?

Rastus—He ain't no bettah, Clem, an' he had to call in a brudder physician.

Clem—Why don't he cure himself?

Rastus—Kase doctors is jes like other folkeses; wen dey's sick dey's got ter hab a physician, and wen dey ain't sick dey kin cure derselves.

### NOURISHMENT FOR INVALIDS.

It is difficult, if not odious, to reckon the comparative value of two things when both seem to be actual necessities, yet it is probably true that if physicians could rely wholly either on the curative effects of drugs, or of suitable food, the drugs would often be discarded, and no doubt more cures would be effected in all kinds of disease, or nearly all, by the results of a suitable diet with as few drugs as possible, than by the use of drugs without the accompaniment of a proper selection of food. It is likely that this is a proposition which would be most readily accepted by the most skilled physicians. However greatly it may differ from former theories of medical treatment, enlightened modern practitioners will hardly dispute it. Little can be done in disease if the system of the patient has lost its natural power of recuperation, and in most cases the most valuable treatment is that which interferes least with nat-

ural tendencies, standing back, as it were, and giving nature a chance to effect its own cure. In order to this comes the primary importance of a food which shall not only contain all the elements adapted to the proper building up of the system, but shall contain them in a form in which the system can properly dispose of them. Many varieties of excellent food, containing the chemical constituents which are precisely what nature is craving, are useless, if not positively injurious to a delicate person, because of the inability of his system to properly assimilate the elements. Especially is this the case where the alimentary canal is enfeebled or irritated in any or all of its parts by disease. The wonderful and almost inconceivably delicate mechanism of the organs of taste and digestion is capable, in a healthy condition, of tremendously hard work, but when it is out of order will often fail to accomplish seemingly easy tasks. Mal-assimilation or non-assimilation, mal-nutrition or non-nutrition follows; the effort of the organs to dispose of what is swallowed brings an additional irritation, or still further weakens some part already enfeebled, and starvation and death often ensue. This sequence of events is so familiar to physicians that for many years there has been a constant demand for some food that shall nourish the body without over-taxing its enfeebled machinery. Such a food is not provided by nature, or if it is, the closest search of physicians has failed to discover it. No viand known to man, if taken in its natural state, answers the required purposes, and none of the ordinary processes of culinary science has been found to fulfill the demands. In consequence there have been unnumbered efforts to discover some process of preparation by which the simpler and more nutritious foods may be rendered fit for the consumption of invalids. Simple as the problem may seem from a chemical standpoint, these efforts have been mostly failures. It appears easy to select innocuous substances, separate them from anything likely to prove irritating, even to debilitated organisms, and to combine them in proportions that will nourish the various parts of the body with something like natural proportion. The task, however, has been found to be anything else but easy. Food after food has been selected, treated with the most scrupulous care and most delicate exactness, and prepared in combination or alone, and the result has been that while it has proved serviceable in some cases, it has unaccountably failed in others, and in most cases has not only failed but demonstrated some injurious quality that was wholly unexpected. Commercial enterprises of very considerable magnitude have been set on foot, with a theoretically perfect recipe, and practically unlimited capital as a basis of operation, and the best results have been confidently counted on, with only the result of grievous and costly disappointment. It would be tedious to undertake a recapitulation of the efforts that have been made in this direction or to enumerate the materials that have been tested. The preparations of beef alone would make a respectable list, while the various grains have formed the basis of countless experiments. The simple juice of the clam, invaluable in many cases as a stimulant and food combined, has been carefully prepared and combined with various other excellent substances with the idea that a perfect food could be obtained for such cases as are here considered. In very many cases, although the result has been failure so far as the experiment is considered commercially, the most excellent results have been obtained in cases of individual treatment. It has almost always been found, however that the old saying held true: "What is



one man's meat is another man's bane." The food that restored one invalid to health, or sustained his strength for a sufficient time to allow of the action of other curative agencies would prove positively injurious to another or fail to benefit him at the very best.

Nevertheless, as there is no rule without an exception, it is to be noted that there is one food that has been discovered, and that is now come into general use which seems to have none of the drawbacks mentioned. Chemical experiment has demonstrated that it is possible to produce a solid extract from wheat, provided the best growths of the grain are selected with sufficient care, which extract is not only a food of the highest medicinal value when assimilated, but is of a character which renders it easy of assimilation by the most delicate child of the tenderest age, and by aged persons and invalids in almost any stage of disease short of moribundity. This not only seems to prove what is often claimed, that the grain of wheat is the nearest of any known food to ideal perfection, but that the process by which this particular preparation of it is produced must be practically perfect. As a matter of course no such statements could be substantiated without years of trial, and experiment upon countless varying cases. A failure in any individual case might prove nothing, but a number of failures in any one class of cases would demonstrate the lesser worth of the preparation. It is more than thirty years, however, since this food known as the Imperial Granum, has been universally acknowledged in this country to be the leading prepared food, and if it is anything less than the ideal food for invalids and aged persons as well as for babes of any age, the fact is not yet made manifest. In no case of the millions in which it has been tried has it produced any appreciable irritation to the system, and whenever there has been any assimila-

ting power whatever in the patient, this food has not failed of beneficial results. It has saved thousands of lives that were in imminent peril, and has prolonged thousands that were almost at the point of death. These facts are well known to physicians generally, and should be made familiar to every one.

## MISCELLANEOUS.

### WISE SAYINGS WELL SAID.

To protect ourselves against the storms of passion, marriage with a good woman is a harbor in the tempest; but with a bad woman it is a tempest in the harbor.—*J. Petit Senn.*

In all Christian countries men are trained to a tender care of wives, mothers, and sisters; and a chivalrous impulse to protect and provide for helpless womanhood is often stronger in men than in most women.—*Catherine E. Beecher.*

The best and simplest cosmetic for women is constant gentleness and sympathy for the noblest interests of her fellow-creatures. This preserves and gives to her features an indelibly gay, fresh, and agreeable expression. If women would but realize that harshness makes them ugly, it would prove the best means of conversion.—*Auerbach.*

We are not very much to blame for our bad marriages. We live amid hallucinations, and this especial trap is laid to trip up our feet with, and all are tripped up first or last. But the mighty mother, who has been so shy with us, as if she felt she owed us some indemnity, insinuates into the Pandora box of marriage some deep and serious benefits, and some great joys.—*Emerson.*

As a rule the length of the face is the same as the length of the hand.

### HOW THEY DO IT IN JAPAN.

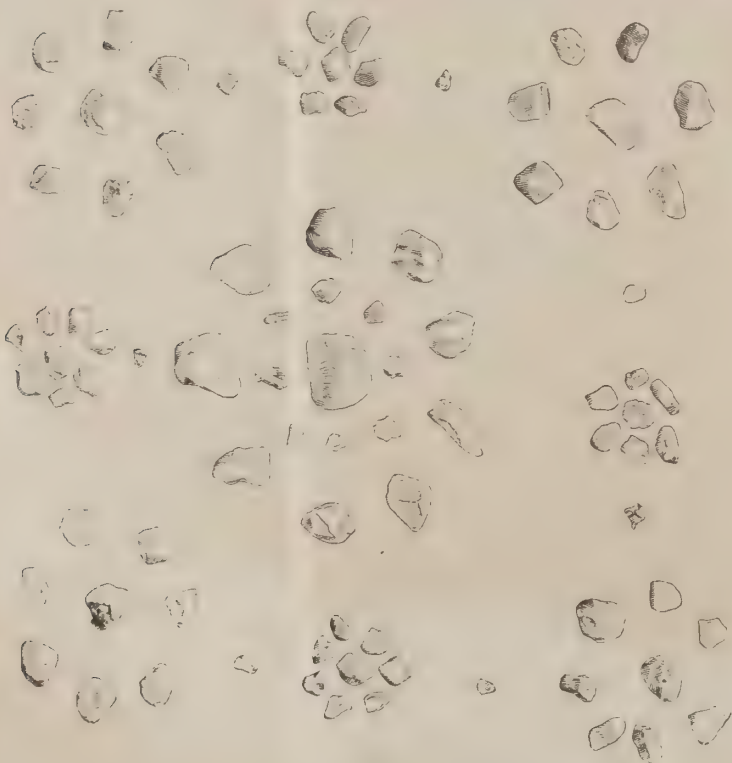
I see a man planing. He pulls the plane towards him. I notice a blacksmith at work. He pulls the bellows with his feet while he is holding and hammering with both hands. He has several irons in the fire and keeps his dinner pot boiling with the waste flame. The cooper holds his tube with his toes. All of them sit down when they work. How strange! There is an important difference between a European and an Asiatic. One sits down to work and the other stands up to it. Why is it that we do things contrariwise to them? The Japanese say that we are reversed. They call our writing crab writing because they say it goes backward. In a Japanese stable we find a horse's flank where we look for his head. Japanese turn screws the opposite way to us. Their locks are thrust to the left, ours to the right; notwithstanding, they are a wonderful and promising people. They have few of our inherent insular prejudices and conservatisms, they are the Germans of the East in ability, education and enterprise. The Japanese have availed themselves of the progress of industrial civilization and customs quicker than any other nation. They are not good people of business as a rule, but in the applied arts and sciences they particularly excel. They are thoroughly up-to-date people, whilst their climate, scenery and social temperament make it a country to be envied. Now that the Japanese have got a patent law we may reasonably expect to hear of some clever and startling novelties.—*Invention, London.*

APPLICATION FOR THE CURE OF RED NOSE.—The *Drogisten Zeitung* says that the red nose of habitual drinkers may be bleached by the local application, by means of the spray, of a 5 per cent solution of boric acid in water. It is worth trying.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

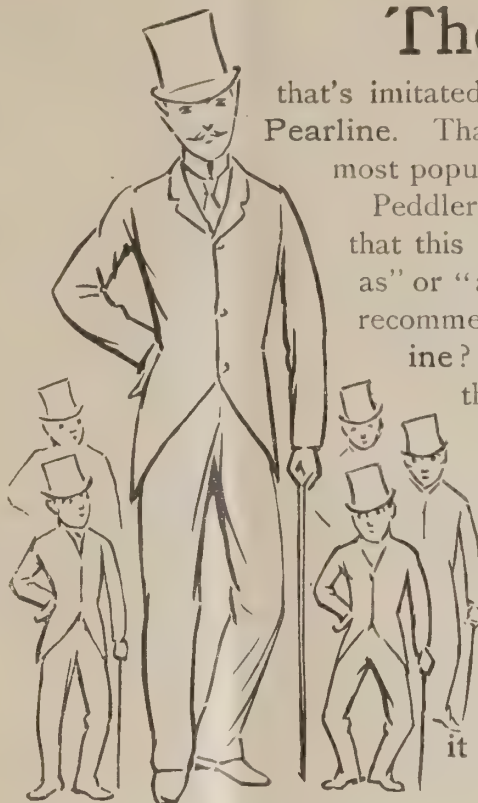
THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## A LADY'S FORTUNATE DISCOVERY.

A large percentage of the correspondents' letters received by every journal which, like the ANALYST, devotes special attention to hygienic and other matters specially pertaining to the person and the home, are inquiries for restoratives which may be relied upon to arrest incipient baldness or restore natural color to hair that has turned gray. Unfortunately, there are few special departments of knowledge in which advice in response to mere general statements of conditions requiring reformation is less likely to be generally satisfactory. It is not enough to know that a man is bald. How bald is he? If his pate is smooth and shiny as a varnished pumpkin—and many are that way—the only medicine to fit his case is a wig. The follicles are dead and no application will make hair start from them any more than carrots will grow on a granite slab. And long before the baldness reaches that point, it is open to question whether anything but careful experiment based upon microscopic examination will enable anybody to say positively in any given case what will, or will not, stop the hair from falling out. As for gray hair, of course one may dye, but that is objectionable from many points of view and it is even dangerous, frequent-



## The Only One

that's imitated, among all washing compounds, is Pearlina. That is because it is the original, the most popular, and the best.

Peddlers and some grocers will tell you that this thing or that thing is "the same as" or "as good as" Pearlina—what better recommendation do you want for Pearlina? They tell you this because it pays them better to sell these "same as" stuffs. But how will it pay you to use them?

Any saving that they can offer you, in prizes or prices, can be only nominal.

The loss in ruined linens, flannels, muslins, etc., can be large.

**Send it Back** Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as" Pearlina. IT'S FALSE—Pearlina is never peddled, and if your grocer sends you something in place of Pearlina, be honest—send it back. 368 J. PYLE N.Y.

ly causing baldness and sometimes inducing grave diseases of the scalp and in well-verified instances fatal poisoning. Perhaps the surest prescription against gray hair is "Don't grow old," but that is not always easy advice to follow. It is, however, indubitable that in a very large proportion of cases of hair commencing to turn gray, that tendency has been arrested and natural color restored by the use of a medicament, not a dye, which seemed to act by nourishing the hair and restoring its pristine vigor of growth.

A lady (known to the editor of this journal) becoming alarmed at the rapid falling of her hair, which had already shown a great many silvery threads and now threatened to desert her altogether, made trial—though, as she avers, without much hope, since many other things had failed—of the preparation known as Ayer's Hair Vigor. A single trial of it satisfied her that she had found the ideal dressing for the hair, one which rendered it softer and glossier than anything before applied and after only a few applications she realized that it had effectually stopped the falling out. Delighted with that measurable success in her experiment, she continued using the Hair Vigor, without even a thought of its being of any further benefit to her, satisfied with it as a luxury and a preservative. In a little time, however, she began to note that not only were the silvery threads disappearing, but new hair was coming up all over her head. The gray did not all disappear at once, as it would if the dressing had been a dye, but by degrees, gradually returning to the soft brown tint it all bore in youth, and now, after less than three months' use of the Hair Vigor, her tresses are as abundant, silky and youthful in their freshness of color, as they were twenty years ago. Her case certainly substantiates all that has been claimed for Ayer's Hair Vigor, and will no doubt be encouraging to ladies who find themselves in the plight she was in before its use.

## Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

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will confer a favor by sending us the names of any of their friends and acquaintances who, they think, would be interested, and who would appreciate

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Circulars and Baking Samples Free.  
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From our Celebrated Orleans Vineyard.

*Charles F. Harbath & Co.*  
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Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Sève of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only

"Eat BEECHNUT Hams and Bacon"



## BUSINESS NOTES.

### CATARRH CANNOT BE CURED

With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

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Sold by druggists, price 75c.

### WHAT TO SAVE,

And how to save it, are subjects which interest all prudent housewives. This information is given in "Ayer's Home Economies," containing one hundred recipes for using odds and ends from table and market. It is a book especially valuable to young housekeepers and will afford many new and useful hints even to those more experienced. "Ayer's Home Economies" mailed to any address on receipt of two-cent stamp, by Dr. J. C. Ayer & Co., Lowell, Mass.

### THE COLUMBIA DAILY CALENDAR

Remains the only valuable daily pad calendar. The calendar for '93 is of the same general design as that of previous years, consisting of 366 leaves, one for every day in the year, and a calendar for the entire year. The day of the week, of the month and of the year are given, and on each leaf is a short sermon on the Gospel of "Outdoors, Health and Happiness," with valuable hints on practical road-making. The leaves are so arranged that there will be no stub left, and each one can be referred to at any time during the year. The pad is upon a metallic stand of ivory

black, arranged so as to rest upon the desk at a convenient angle. The pad matter, which in the aggregate is enough to make a book, is all fresh and new, and is of more pertinent value than that of any previous calendar. The calendar is issued by the Pope Manufacturing Company of Boston, New York and Chicago.

### HORSFORD'S ACID PHOSPHATE

Relieves Indigestion, Dyspepsia, etc. Dr. W. E. Crane, Mitchell, Dak., says: "It has proven almost a specific for this disorder; it checks the vomiting, restores the appetite and, at the same time, allays the fear of impending dissolution that is so common to heavy drinkers."

### A NEW MAGAZINE.

Worthington's Illustrated Magazine and Literary Treasury is the name of this new aspirant for a reputation and standing in this already crowded field. The first number for January, 1893, has come to hand. It contains articles by some good writers and is handsomely illustrated. The price will be \$2.50 per year. Published by A. D. Worthington & Co., Hartford, Conn. We wish it every success.

### LITERARY NOTE.

The value and utility of that unique literary publication, *The Weekly Bulletin of Newspaper and Periodical Literature*, published at 5 Somerset street, Boston, are to be greatly enhanced by the immediate addition of some important new features. Besides serving as a guide and index to the press of the country by affording a weekly classified and descriptive catalogue of the contents of over twelve hundred different papers and magazines, the *Bulletin* will hereafter supply the

growing public demand for a review of the periodical press by devoting several pages every week to comprehensive summaries of the best and most interesting articles appearing in the monthly magazines and the daily and weekly papers.

As the *Bulletin* is a weekly publication, its readers will have the summaries of the best features of the press almost as soon as the original articles appear. The department of "Literary Notes" will also be enlarged and enriched, and other attractive features, such as illustrated cover, portraits of authors, etc., will be introduced.

### HOT BATHING IN JAPAN.

In hygienic matters, the Japanese have everywhere a habit which may have a lesson for us, writes Dr. Benjamin Howard in the *Lancet*. In their nightly bath and morning wash the water is never cold, never warm, but always as hot as it can be borne. To foreigners this habit seems very surprising, but the most inveterate Englishman, if he stays in the country long enough, abandons his cold tub in its favor. The cold taking, which it is suspected must follow it, is not found to occur if the water has been hot enough. This heat is maintained by a little furnace beneath the bath. In the bath the bather or bathers take a prolonged soaking, the washing proper being done on the bath room floor; then follows a second and final soaking, drying with towel, and a lounge in bathing wrapper. This habit seems to promote softness and suppleness of the skin, and by persons inclined to rheumatism is soon found to be altogether preferable to the cold bath in every particular. The poorest of the Japanese hear of a cold bath with amazement, and would be sure the man who used it must be a barbarian. With respect to the superiority of the hot bath over the cold, I have come to find that, in my own case, certainly the Japanese are right.

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# IMPERIAL GRANUM

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IMPERIAL GRANUM.—We have heretofore had occasion to speak of the merits of this food. We desire to add, at this most opportune time, a few words upon its superior value not only as a food for children, but as a nutriment for invalids. IMPERIAL GRANUM has been too many years before the profession to require "puffing." Its purity, and thorough digestibility secure for it an enormous sale. Mothers like it. Babies cry for it. Invalids praise its virtues. Physicians recommend it, having once given it trial in practice. *The Epitome of Medicine*, N. Y., June, '89.

IMPERIAL GRANUM.—There is one dietetic preparation that goes on in the even tenor of its way, always a popular food with the doctor when no other one can be, or will be, retained on the stomach. It is carefully prepared, never disappointing, always a valuable aid to the busy doctor. Easily assimilated, with the greatest possible amount of nourishment, combined with the minutest amount of labor in its digestion, IMPERIAL GRANUM stands to-day, without a rival, in the room of the sick or convalescent. While good for children in all the varying periods of their existence, yet its strongest hold is in the sick room where either adult or little one needs a soothing, sustaining diet with the least amount of physical effort for its digestion.—*W. C. Wile, A.M., M.D., The New England Medical Monthly*, Dec., '90.

IMPERIAL GRANUM has now been before the public for many years, and is admitted to be a standard preparation. There can be no doubt that this is due to its uniformly superior quality, and the successful results obtained with it in all cases where a prepared food is required.—*Popular Science News*, Boston, Feb., '88.

Among the large number of dietetic preparations with which the market is flooded IMPERIAL GRANUM has withstood the test of time, and is to-day unexcelled by any.—*Atlanta, Ga., Medical & Surgical Journal*, Feb., '89.

From a constant use of "IMPERIAL GRANUM" in our family extending over several years, we are enabled to certify to its excellence. It contains no stimulating properties, but acts through the digestive organs by its nourishing qualities. Its agreeable taste and flavor render it acceptable to the youngest infant.—*New York Christian Weekly*.

IMPERIAL GRANUM.—This most excellent article of food for infants, children, and invalids, is a simple extract from Wheat. In all cases of children teething and Summer Ailments, the writer, from personal knowledge, most heartily recommends it. A NOTED PHYSICIAN ORDERED IT FOR A CHILD OF THE WRITER, WHEN VERY LOW WITH DYSENTERY, AND IT EFFECTED A COMPLETE CURE.—*New York Examiner*.

IMPERIAL GRANUM is a thoroughly tested and generally approved dietetic preparation made from certain kinds of wheat by a peculiar process. Its use is warmly recommended by eminent physicians in cases of debilitated digestion, especially for children with any intestinal complaint. It is in such general use that it is hardly necessary to speak of its special merits, they being

generally conceded: In short, for invalids and for the aged, for infants and children, for nursing mothers and convalescents, it is a most reliable food preparation.—*The Examiner*, July 3, '90.

That standard and well-known preparation, "IMPERIAL GRANUM," cannot be too highly recommended and we feel that we are acting in the interest of our readers when we say that it should always be kept on hand, for it is invaluable in all cases of sickness or debility. It is easily and simply prepared, and as efficacious for adults as infants. It can be retained by the most delicate of stomachs, and not only brings back strength and health, but is palatable and delicious. We speak from experience when we cordially and emphatically endorse this preparation. It has been used by every member of our family, and during convalescence from fever was the only food taken and with the most gratifying results.—*The Christian Leader*, Boston, Mass., April 24, '90.

The writer has a child that is as strong an argument for the use of IMPERIAL GRANUM as any mother could wish, and we therefore speak from experience when we say that it is both safe and nutritious, and it is the testimony of thousands of mothers who have brought up their children on IMPERIAL GRANUM that this preparation is successful where many others fail. It has been on the market for many years, and its sales are constantly increasing, and it is used as a food for invalids and the aged as well as for children. The greatest possible care is used in its manufacture, as we can testify, having visited the factory. Absolute cleanliness prevails, and the greatest care is taken to have the product absolutely uniform. The fact that physicians almost universally recommend IMPERIAL GRANUM is sufficient proof of its standard quality.—*The Christian Union*, N. Y., July 4, '89.

There are so many foods so-called nowadays that one almost feels at a loss to realize which is the best. Everything is claimed for each, but in the experience of physicians and mothers and those entrusted with the bringing up of children, nothing has ever proved so valuable as IMPERIAL GRANUM. It has stood the test of time and is to-day more popular than ever. As a pure nutritious food for children it has no equal. Lots of the strongest and healthiest children are often pointed out as GRANUM babies and they are fine living testimonials of the value of this food. We can speak from our personal experience and endorse everything that is said in its favor. IMPERIAL GRANUM is equally valuable as a food for invalids, giving a maximum of nutrition with a minimum of tax on the digestive organs.—*The American Hebrew*, N. Y., May 22, '91.

IMPERIAL GRANUM is a good and well made powder of pleasant flavor. \* \* Contains no trace of any impurity.—*The Lancet*, London, Eng., July 12, '90.

IMPERIAL GRANUM is a food that has attained a high and standard reputation by the merit of actual use for a long period of time.—*Medical Summary*, Philad'a, Pa., July, '88.

IMPERIAL GRANUM has stood the test of time, and has not been found wanting. In malnutrition of teething infants, as well as in convalescence from acute disease in adults, it will be found of inestimable value. It is one of the few old-time preparations that still RETAINS THE ENTIRE CONFIDENCE OF THE PROFESSION.—*N. A. Journal of Homœopathy*, N. Y., May, '91.

IMPERIAL GRANUM is a most nourishing and delicious food. In cases where the digestive organs have been reduced to such a weak and sensitive

condition that the stomach would not retain any ordinary nourishment, although life itself depended on its retention, the IMPERIAL GRANUM has been used with the best results; life has been saved, and the patient restored to health and vigor. It is truly a natural remedy, and its wonderful restorative power and efficacy have been incontestably proven. As a nutritive and wholesome food for invalids, convalescents and the aged, and for children, it is positively unequaled.—*Belford's Magazine*, N. Y., March, '91.

IMPERIAL GRANUM continues to hold its high place among medicinal foods, and steadily grows in popularity. Notwithstanding the advent of other foods, its sales are reported to have been larger this year than for the corresponding period of any former year.—*The Druggists' Circular*, N. Y., '91.

For several years we have used and prescribed IMPERIAL GRANUM, both in private and hospital practice, and have not as yet recorded a single case of failure to obtain the most satisfactory results. Especially it is serviceable in our hospital wards and its uniformity may always be relied upon.—*Ensworth Hospital*, St. Joseph, Mo., May 15, '91.

The fact is absolutely unquestioned that during the thirty years that IMPERIAL GRANUM has been manufactured as a food for children and invalids it has saved thousands of lives not only of children but of infirm, aged and delicate persons who have required and sought nourishing and strengthening diet.—*The Independent*, New York, March 26, '91.

IMPERIAL GRANUM.—This standard preparation for children and invalids, is steadily moving forward as the years roll by, winning hosts of friends wherever its merits become known. We have been familiar with it for many years, and now take pleasure in describing a recent remarkable case with the facts of which we are personally cognizant:—

A lady of ———, Mass., was so reduced by disease and from the effects of the powerful drugs necessarily given to relieve her sufferings, that she was attacked with black cholera morbus, and for days lay in an unconscious condition, life being sustained by champagne. As a last resort she was sent to a Boston hospital, so weak that she had to be moved on a bed, and her physician said it was almost impossible for her to recover. At the hospital the physicians began using IMPERIAL GRANUM; a one-half teaspoonful at a time which after several trials was retained and the quantity increased, until the patient after four weeks' treatment, during which she lived entirely on IMPERIAL GRANUM, was discharged from the hospital comparatively well, and so built up that in eight weeks, she endured successfully a severe surgical operation, and to-day is, to use her own words "in perfect health."—*The Cottage Hearth*, Boston, Mass.

A competent medical authority of our acquaintance has borne to us high testimony, from his personal observation, of the excellent service which IMPERIAL GRANUM has rendered in case of diarrhoea or inflammation of the stomach. We are glad to be able to repeat that here. The secret of its action is simply that its value arises from nothing more or less than the nutritive element of selected wheat. In almost all diseases of the stomach and bowels, it must act like a charm as it is assimilated at once, the system being nourished and the strength kept up, with the least possible effort of the diseased organs, which, being allowed to rest, the cure is only a question of



a few days. To many, particularly children, during hot weather, this delicious food will be invaluable. The faculty are fast becoming acquainted with its virtue, and in many parts of the country it has already become their chief reliance in treatment of diseases peculiar to the summer season. To those of the faculty not acquainted with it we commend a trial.—*N. Y. Catholic Review*.

Some twelve years ago our attention was called to the value of IMPERIAL GRANUM as a food particularly serviceable to children and to all who suffer from disorders incident to mal-assimilation. We were then able to praise it very warmly, and now, after many years, we are able, with increased confidence, to renew our commendation of it to our readers. The principle on which it is prepared is good, and the effects from its use, we have observed, have been excellent.—*N. Y. Catholic Review*, Aug., '86.

IMPERIAL GRANUM has stood the test of many years, and has not been displaced by any food yet introduced, while many competing kinds of prepared foods have come and gone, and have been missed by few or none. But this will have satisfactory results in nutrition far into the future, because it is based on merit and proven success in the past.—*The Pharmaceutical Record*, New York, March 19, '91.

IMPERIAL GRANUM is an invalid food of unrivalled purity, very palatable, and of especial value in typhoid fevers, inanition, and enteric trouble generally. Its sale is world wide.—*The Homoeopathic Record*, Philad'a, Pa., May, '90.

IMPERIAL GRANUM is very highly recommended and endorsed by the best medical authorities in the country, and deserves a trial at the hands of the profession.—*The North American Practitioner*, Chicago, Ill., July, '91.

IMPERIAL GRANUM is the most remarkable medicinal food ever brought before the public. It is a solid extract from the best growths of wheat, and is of a highly nutritious character. For invalids, convalescents, nursing mothers, infants (from birth) and for children, also as a nourishing and strengthening food for the aged, it has no equal in the market. It has long been before the public, and is endorsed by the most skillful physicians, and recommended earnestly by all who have tested it.—*Christian Enquirer*, Aug., '88.

IMPERIAL GRANUM is a preparation of wheat that will be found to possess the many excellent qualities claimed for it. For infants' food, as a non-stimulant nutritive and as a remedial in diseases that irritate the stomach, it is highly recommended by the most eminent chemists and physicians. Many of the best doctors of Mobile prescribe it in their practice, and many families here bear testimony to its excellence, safety and reliability for the purposes for which it is prescribed.—*Mobile, Ala., Register*.

IMPERIAL GRANUM, a medicinal food prepared from wheat, is held in high esteem by all that have tested its merits. It is used with the happiest effect in cases where the stomach is irritable and no other food can be retained, and we confidently recommend it in all such cases.—*The Methodist*, N. Y.

IMPERIAL GRANUM.—This dietetic preparation has been tested and proven, beyond a doubt or cavil, one of the most beneficial articles of food ever prepared for the use of infants, children and invalids, and its value in such cases is widely known. The sale of the article is large and it is universally recommended. WE HAVE AMPLY TESTED ITS EFFICACY IN OUR OWN FAMILY AND CAN MOST WILLINGLY ENDORSE IT AND GIVE IT OUR UT-

MOST APPROVAL.—*New Haven Journal and Courier*.

IMPERIAL GRANUM is prized equally in the nursery and in the sick room. It holds a high place among made-foods AND DESERVES IT.—"Marion Harland," *The Home Maker*, N. Y.

IMPERIAL GRANUM is one of those carefully and conscientiously prepared foods that never disappoint the doctor in its administration. We have never seen a stomach that could not retain it, no matter how inflamed it might be. It will at once be seen what a valuable aid this is to the physician in the treatment of all the graver forms of gastric diseases. *The Prescription*, Feb., '91.

IMPERIAL GRANUM in my hands, seems to be all that is claimed for it, and experience has taught me to rely on its use where its special properties are indicated. In infantile diseases it has proved very efficacious, and I always direct its use when a child is being weaned.—*P. Varnum Mott, M.D.*, Boston, Mass.

"Of the preparations so varied and so highly commended by those who put them on the market, IMPERIAL GRANUM seems to hold first place in the estimation of medical observers."—*N. Y. Medical Record*, Vol. 13, No. 23.

IMPERIAL GRANUM, the invaluable food for children and invalids, is in constant use in the hospital, and has shown its superior value many times. Thousands have been helped back to strength by the support rendered by this easily digested and palatable food.—*The Cottager*, Mass. *State Hospital Cottages for Children*, Aug., '89.

IMPERIAL GRANUM is of particular value to invalids and the aged. It is unquestionably one of the safest, best prepared, and most reliable of foods. The secret of its success is in its superior nutritive qualities, the weakest stomachs retaining and assimilating it, supplying that strength without which a patient is unable to recuperate. We cordially recommend it to our readers, and can do so from personal knowledge of its good qualities, for we have used it.—*The Congregationalist*, Boston, Mass., March, '89.

IMPERIAL GRANUM.—A neighbor's child being very low, reduced, in fact, to a mere baby skeleton from want of nourishment, as nothing could be found which the child could retain. At the urgent request of friends the parents were induced to try IMPERIAL GRANUM, which proved of such benefit to the child that it grew and thrived beyond all comprehension. At the same time I had a child sick with cholera infantum; on being presented with a box of the GRANUM, with the high recommend from this neighbor, used it, and continued its use to raise the child; and I firmly believe this had all to do in saving the former child's life and the greater part in restoring my own child to health. A. C. G.—*Leonard's Illustrated Medical Journal*, Detroit, Mich., Oct., '89.

Among the many good things advertised is the "IMPERIAL GRANUM." The announcement says, "It has justly acquired the reputation of being a standard dietetic preparation." I do not know what better commendation I can give. It has this reputation, and the reputation is deserved. While particularly excellent for infants, invalids and the aged, it is capable of being served in most delicious and appetizing forms for all ages, and for the healthy as well as the sick.—*New York Observer*, Feb. 21, '89.

No preparation in the world equals IMPERIAL GRANUM for the purpose it is intended. As a medicinal food in all ailments of the stomach or bowels, for children, for convalescents, or any of the delicious forms in which it may be prepared for the table it is unequalled. While twenty-five

years ago it was used chiefly as food for children, to-day it is sold in large quantities as an article of daily consumption for the strong as well as the weak. Nothing has ever been invented to take its place and probably never will be.—*Troy, N. Y., Times*.

We had occasion a short time since to test the medicinal qualities of IMPERIAL GRANUM in our own family, after all other means had failed. The sufferer in this case was a child of two years, fast wasting away under a severe attack of Cholera Infantum. One of our neighbors recommended us to try the GRANUM. We did so, and with the best results, it seems to be both food and medicine.—*Saturday Union*.

IMPERIAL GRANUM is acceptable to the palate and also to the most delicate stomach at all periods of life.—*Annual of the Universal Medical Sciences*, '90.

IMPERIAL GRANUM is the favorite food for children and invalids.—*The Medical World*, Philadelphia, Pa., May, 1890.

IMPERIAL GRANUM has been before the public for many years, and it would be possible, probably, to procure recommendations in its favor from every family in which it has been used. Children are kept in health, and in thousands of cases invalids have not only been kept alive, but have been restored to perfect health by its use. We are glad to know that the sales increase with every year.—*The New York Independent*.

Twenty-seven years ago last June IMPERIAL GRANUM was recommended to us by one of the leading physicians of Cincinnati, for a child whose life had been despaired of. We believed it saved the child's life, and it has been one of the articles necessary to have in the house ever since that time. But it is not alone for children. It is equally efficacious for the invalid and aged. We have recommended it in very many cases, and have found it to assimilate and nourish when nothing else could be retained. It has steadily increased in popularity during all these years, and is to-day commended in the highest terms by leading physicians all over the world. There is probably no article on the market which receives so much care and attention in every detail of manufacture.—*The Christian at Work*, New York August 21, '90.

We have been using your IMPERIAL GRANUM at the South Side Sanitarium the past summer, with very favorable results.—\* \* \* M D., Chicago, Ill., Oct. 3, '89.

IMPERIAL GRANUM is well nigh an indispensable article of delicate, nutritious and easily digested food. It has saved the lives of many children as well as adult invalids.—*Methodist Itinerant*, 1891.

We have for several years used in our family that king of all dietetic preparations for infants and invalids—"IMPERIAL GRANUM." Its name, "IMPERIAL," is no misnomer, for certainly it is simply supreme as a medicinal food for all ailments of the stomach or bowels, for children and convalescents.—*Happy Hours at Home*, Philadelphia, Pa.

Sick room diet is often the despair of the nurse. It is easy to give medicine, but to build up with suitable nourishment is a difficulty perhaps best and oftenest solved by the use of IMPERIAL GRANUM.—*St. Augustine, Fla., News*.

We are pleased to again call our readers' attention to the IMPERIAL GRANUM, which we have so often commended. Repeated tests of it with both children and older persons prove it to be a perfect food, the use of which has, in more than one instance, to our personal knowledge, seemed to have been the salvation of the patient.—*The Cottage Hearth*, Boston, Mass., July, '90.



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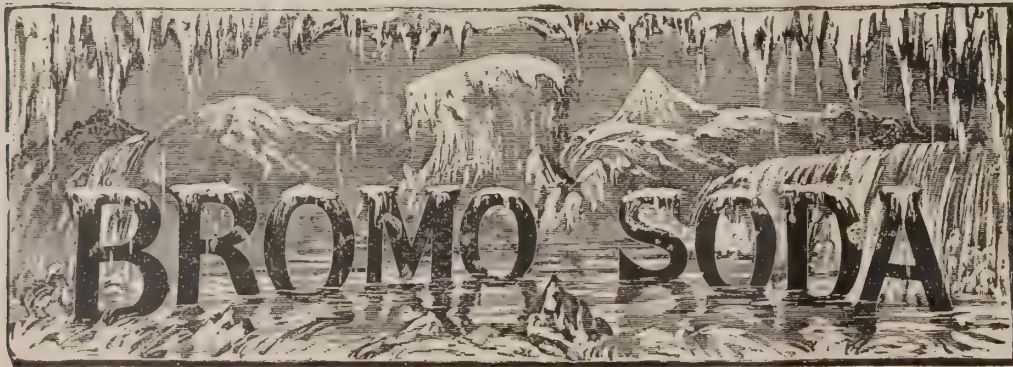
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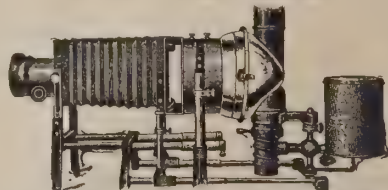
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JANUARY 15, 1893.

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### BACTERIA AND BANK NOTES.

Our several editorials on this subject have borne fruit, for we hear from Washington that Representative Outhwaite of Ohio, has taken up and, in view of the danger of cholera invasion, will press vigorously at this session of Congress a proposition for the frequent exchange of soiled paper money for new notes. An investigation made at his suggestion has shown that old greenbacks and bank notes contain the germs of disease to an unusual degree, and that there is reason for apprehension of them as a producer of disease. In view of the necessity for the utmost precautions against the spread of cholera in this country next summer, Mr. Outhwaite has introduced a bill directing the Secretary of the Treasury to make the necessary regulations to secure "the speedy and frequent redemption of all United States paper currency and all National

Bank notes which have become soiled, impure, unclean or otherwise unfit for use."

Dr. J. C. Graham, bacteriologist of Sterling Medical College, was asked to make an investigation, and his partial report discloses the fact that old paper money is as full of bacteria as eggs are said to be full of meat. Dr. Graham writes that he made an examination of eight bills. A \$1 bill of the series of 1878 showed three kinds of bacteria; one of series of 1886 two kinds; two \$2 bills of the same series one bacterium each, and another \$1 bill, series of 1886, two kinds. The bills were all much worn and dirty. The culture made of the notes showed that on each of them were a number of bacteria colonies which might some day, under some circumstances, develop energy enough to infect the human system. For instance, the doctor's report shows that one of the bills had thirteen colonies of two kinds of bacteria. The doctor says that it yet remains to determine the nature of the various microbes to ascertain if they be pathogenic germs capable of producing disease. The work will require considerable time.

### HOW ANIMALS BEAR PAIN.

A paragraph, and a very pathetic one too, is going the rounds of the press, describing how wounded animals bear pain. The writer of it tells us how "the dog will carry a broken leg for days wistfully, but uncomplainingly. The cat, stricken with a stick or stone, or caught in some trap, from which it knows its way to freedom, crawls to some secret place and bears in silence pain which we could not endure. Sheep and other cattle meet the thrust of the butcher's knife without a sound, and even common poultry endure intense agony without complaint. The dove, shot unto death, flies to some far-off bough, and as it dies the silence is unbroken save by the patter on the leaves of its own life-blood."

Commenting on this the *National Druggist* pertinently says: All this is very pathetic, but very nonsensical to the physiologist, who knows that these creatures, like some races of men, bear injuries without the outward demonstration of pain, simply because their nervous organism is not strung in the same pitch as ours. Every traveler in Africa and Oriental lands, knows how utterly callous and indifferent to pain are the Egyptians, Algerians, and especially the Chinese. Of the first, Dr. Bruch, surgeon in the army of the Khedive, says: "They submit to an operation exactly as though it were being performed on somebody else." The writer hereof has seen a Chinese calmly smoke a cigarette, handle the implements of the surgeon, ask what each one was for, laugh and chat all the while undergoing a frightful surgical operation.

This indifference is not due to that fortitude which enables a brave man to endure pain, and suppress outward signs of suffering; nor is it even akin to this stoicism. They do not betray, under these circumstances, that involuntary muscular contraction, that reflex, shrinking from the knife which is always present in the case of the brave

man, who has nerved himself to suffer, and suppresses his emotions. They have, rather, the appearance of absolutely not feeling the pain, and they do not complain, simply because they do not suffer.

Dr. Waldo Briggs, one of the best known surgeons of this city, wrote a communication to the *St. Louis Medical and Surgical Journal* some years ago on the "Callousness of Orientals to Pain," in which he described the removal of a necrosed *os calcis* from the foot of a Chinaman. He says:

"He deliberately put out his foot and told me to go ahead. 'You cuttee—me stand it. Me no gettee dlunk *dis* time' (alluding to a former operation when ether was administered to him). I proceeded with the operation, and not only did he 'stand it' without a groan or a shiver, but he laughed and chatted throughout the entire operation. Several times he picked up instruments from the case and, after asking what they were for, would turn and make a remark in Chinese to his countrymen, who would thereupon roar with laughter. Asking him what he had said that caused so much merriment, he answered that he was 'give a lecture to make them like Melican doctor mans.' Once, while I was scraping away at the bone, he abruptly asked how long it would take to make a doctor of him. Of Chinese doctors he expressed great contempt. 'Givee medicine like hellee, yes. No cuttee man—no got sense.'

"The operation and dressing over, the party left as they had come, jabbering and laughing, the patient being the liveliest of them all. None of those present had ever seen such a specimen of callousness. What would have been intolerably painful to an European or an American, was borne not only without complaint, but with smiles and chatting, gibes and laughter."

It is not the intention of the writer to encourage cruelty to animals—far from it; but to place natural phenomena on a scientific rather than a sentimental basis. Our dumb animals, our horses, dogs, cats, the pigeons and barn-door fowls, deserve all the care and consideration that we can give them, and even wild beasts should be slain with as little of the element of cruelty as possible. The wanton injury to life or limb of any living creature betrays an inhuman heart, one that would not hesitate to take human life if his interests were furthered thereby.

### THE AMERICAN ANALYST.

With the end of the year the *AMERICAN ANALYST* closes the eighth volume of its valuable and successful crusade against the adulterations, poisons and other dangers which are entertained all unawares by the progressive people of the nineteenth century. Besides the fearless exposure of various impositions, much other interesting matter adds to the value of the book, and many things important to the housewife and infant advise as to physical need and comfort.—*Houston Daily Post*.



## HOUSEHOLD.

## WHAT TO TAKE IN THE FINGERS.

It is quite unnecessary to caution any child not to "eat with his fingers," since that is a physiological impossibility; and it is a terrible stretch of the use of language to speak of "eating with one's fingers," when we mean simply to say the holding of food in them. But there is quite a respectable list of things which should, by the best usage, be held in the fingers when eaten, instead of being lifted by fork or spoon—of course the knife is utterly tabooed. For instance:

Olives, to which a fork should never be applied.

Asparagus, whether hot or cold, when served whole, as it should be.

Lettuce, which should be dipped in the dressing or in a little salt.

Celery, which may be properly placed on the tablecloth beside the plate.

Strawberries, when served with the stem on, as they are in the most elegant houses.

Bread, toast, and all tarts and small cakes.

Cheese, which is invariably lifted with the fingers by the most particular people.

## SOME TESTED RECEIPTS.

A splendid specimen of femininity, having the degree M. A. G. W. (make a good wife) favors us with the following receipts. We have tried them all and having found them excellent reproduce them for the benefit of our readers.

**DRESSING FOR CHICKEN OR LOBSTER SALAD.**—Yelks of nine boiled eggs, half a pint of sweet oil, one gill unmixed mustard, quarter of a teaspoonful cayenne pepper, one teaspoonful salt. Mash yelks to a paste, then add other ingredients and enough vinegar to make mixture soft, and suit the taste. Pour over salad five minutes before serving.

**FIG PUDDING.**—One cup of molasses, one cup chopped suet, one pint figs chopped, one teaspoonful of cinnamon, half of grated nutmeg, salt. Mix together, then add teaspoonful soda dissolved in boiling water, fill the cup up with milk, two eggs, three and a quarter cups sifted flour. Boil five hours.

**CLAM BISQUE.**—Put one quart of milk, twelve clams, one onion into a double boiler, and let simmer slowly one hour, then add one tablespoonful flour, half tablespoonful corn starch dissolved in a little milk, a little salt and pepper. Stir until smooth. Put a beaten egg in the tureen, pour over it the strained soup, stirring constantly. Sprinkle parsley on top. Serve at once.

**FAIRY APPLES.**—Bake ten tart apples. When soft remove skins and cores, and mash. While hot add beaten white of an egg, and beat together. Put in a dish and pour over it a soft custard made of a pint of milk, yelk of one egg, three tablespoonfuls of sugar and a tablespoonful of corn starch.

**CHOCOLATE PUDDING.**—Heat one quart of milk, add six tablespoonfuls chocolate dissolved in a little hot water. Pour this over one pint of bread crumbs, and add one cup of sugar and three eggs. Bake about twenty minutes and serve with hard sauce.

**JUMBLES.**—One cup of butter, half cup of lard, two cups of sugar, half cup of milk, three eggs, quarter of teaspoonful soda, half teaspoonful cream tartar sifted in flour, about three cups, or until stiff enough to roll.

## EXPERIENCE VS. SCIENCE IN EATING.

## CHEAP NATIONAL FOODS.

I quite agree with Mr. Edward Atkinson, who handled the subject learnedly and exhaustively, that it is only of late years that the science of nutrition has received close attention, even in a scientific way—only within a very few years that anything has been done to give popular instruction upon the subject. If we had waited, however, for the scientist to tell us how to live, we might long since have begun to diminish in numbers. Each race—perhaps each body of inhabitants occupying a given section of the earth's surface—appears to have established, by a process of natural selection, a national food, which can be procured at least cost, and which, when analysed, is found to contain the nutrients—protein, starch and fat—in about the correct proportion to suit the conditions of the climate.

Beginning with the so-called rice-fed nations or races, whose ration consists in large quantities of rice or starchy food, it appears that they add the requisite amount of nitrogen by consuming peas and beans. Living mainly in hot countries, they do not need so much fat. In India, the element of fat is derived from a peculiar kind of butter, called ghee. In that combination is found a complete food at the least cost.

In Europe, we find that the nutrition of the working classes of Italy consists mainly of polenta, a form of Indian corn or maize meal, which in itself is nearly a complete food, but, being deficient in nitrogen, a modicum of cheese is added; the chief element in the diet of the Italian, however, being macaroni and cheese; many of the cheeses are made from the skim milk after the cream has been removed, as these are richer in nitrogen. Macaroni and cheese with salad is substantially a complete food.

Passing over to Switzerland, we again find cheese furnishing that which is the most important and the most expensive in every dietary—the nitrogenous portion. In France more meat is eaten, but in the *pot au feu* every element of meat and vegetable, including remnants of bread, and everything that contains nutrition, is converted into a substantial food, to which the customary salad and bread serve as a supplement.

In England, the relative scarcity of meat among the humbler and agricultural classes is made up by the consumption of cheese; bread and cheese with occasional bacon, serving as the mainstay of the working people, the cheese supplying the deficiency of the wheat in protein. In Scotland oatmeal is the mainstay, and in the grain of the oat is to be found a food more nearly corresponding to the requirements of complete nutrition than in any other single variety of food which is known to exist. The Irish, subsisting from necessity so much upon potatoes, are not tenacious of life, and, as a rule, not long lived, except when removed to other regions, where they can secure more complete nutrition.

In the northern nations of Europe fish and rye bread together form a cheap and satisfying basis for nutrition, the fish consisting of herring, which supplies a large amount of fat, or of salmon, or of some other varieties of fish.

Crossing over to the United States, we find in the baked beans and corn bread made from maize meal a ration, at a small outlay, which is excellent as a wholesome food. The saltfish ball with a bit of pork, and the brown or whole-meal bread, offer other examples of a tolerably substantial repast.

In Canada we find an entirely different dish, pease porridge, made into a combination with coarse biscuits and a bit of pork, furnishing a

strong and complete ration at almost a minimum of cost.

In the Southern States, the customary ration of the negro, which he chooses in preference to almost any other kind of food, consists of  $3\frac{1}{2}$  lbs. of bacon and a peck of maize meal per week, to which are added a few vegetables, making perhaps the cheapest ration, at least cost in ratio to the force it contains, that can be found anywhere. In Mexico the "tortilla," or bean, furnishes the nitrogen in connection with a diet of other materials, meagre at the best.

Necessity has probably been the teacher in each case; the experience of many generations has probably led to the final selection, and the habit of feeding upon these forms of food has developed an inherited appetite for them which in many instances has become so powerful that a change to a different diet, even as well balanced as those named, leads for the time being to dyspepsia and, of course, discomfort. I have been told that the Southern darkey will be afflicted with indigestion if his customary ration, when at work, is changed from the usual pork and hominy to either bacon and wheat bread or to corn bread and beef.—*The Caterer, London.*

## HOUSEHOLD REPAIRS.

## THE USES OF PAPER AND PASTE FOR FILLING ROUGH FLOORS AND SHRUNKEN WOODWORK.

The uses of paper in old houses are many, and a writer in the *New York Ledger* explains them as follows: If the housewife has patience and skill, the bill for fuel will be largely reduced and the comfort of the family greatly increased by pasting paper over board partitions and rough floors. This, however, must be done with some care, as it is often the case that the boards are too rough to hold the paper firmly. To remedy this, a thick paste made of rye flour with about one-fourth of a pound of cheap glue to a gallon of paste may be spread over the rough boards and allowed to dry.

After the paste has been on for some hours, a smooth piece of wood may be passed over the surface. This will equalize the paste on the boards, and, when carefully used, will press down any roughness or splinters of the wood, and will make an excellent foundation for the paper.

If necessary, add a second coating of paste, as soon as the first is thoroughly dry. If there are large cracks and a good deal of unevenness, a quart of plaster of Paris may be sifted into the first lot of paste, which should be for this purpose cold and not very thick. It must be applied with the utmost rapidity, as the plaster will harden in a few minutes. This process fills all holes and is not likely to break away easily. With a coating of this sort there is often no necessity for a further application of paste.

The paper may be prepared, and when the wall is perfectly dry it may be put on in the same fashion as ordinary wall paper. Sometimes two or three coats of coarse paper are put over such a wall, and then the figured or regular wall-paper is applied. The greatest care must, however, be taken to avoid any joinings and lappings which would show through or leave wrinkles and creases. If the house is old and the woodwork has shrunk, paper may be pasted around the edges of the rooms lapping on to the baseboards very slightly, or the same plaster mixture may be used with the addition of a little color to make it exactly the shade of the woodwork of the room. For walnut wood finish a little umber should be used. For shades of grayer drab lamp-black is required.

No one who has not tried this plaster and glue



paste can have any idea of its value as a promoter of warmth in cold weather. It absolutely closes every crack, whether in floor, wall or woodwork, and if carefully applied may be painted or papered over and leave very little if any sign.

One of its most important uses however, is to close the cracks in floors, and make them desirable for covering with paper, or if carpets are to be laid, to avoid the ridges which invariably cause lines and streaks of wear wherever the edges of the boards project above the level.

There is another preparation which is used to advantage, and this is a paper pulp with glue, flour and plaster. To make this a quantity of old papers is put into a dish and boiled for some hours, being thoroughly stirred so that the fibre of the paper is broken to pieces. After the process of disintegration is complete, the glue, previously dissolved in hot water, may be added; then the flour, mixed up with cold water to a thin paste, is slowly turned in, and the whole should boil about ten minutes, being constantly stirred as it is very likely to burn if left for a moment. Remove it from the fire, and when cold add a quart of plaster to a gallon of pulp paste. Stir vigorously and apply at once. Properly made this material is almost as durable as papier mache.

Boxes, cupboards, or indeed any wooden article may be lined or covered with it. Ingenuity will suggest many ways for using this compound.—*N. E. Farmer.*

**INK ON LINEN.**—To remove writing ink from linen, use salt of lemon, which is made as follows: One ounce of oxalic acid, in fine powder, mixed with four ounces of cream tartar. It is usually put up in small oval boxes, and can be generally obtained at any druggist's. To use it, wet the finger in water, dip it in the powder, and rub it on the spot gently, keeping it rather moist. This preparation will also remove iron mold and other stains from linen. Keep the salt of lemon in a safe place, as it is poisonous. After the stain is removed wash the linen in clear water.

**CHARLOTTE DE RUSSE.**—This delicacy is made in two ways: 1. Put rich sponge cake on the bottom and sides of a glass bowl and fill in with cream. Take a decorating bag, fill with the cream and ornament. May be finished by arranging a few French cherries on the top. 2. Line the pasteboard cups, that are made for the purpose, with lady fingers. Put the cream into a lady-finger bag, fill the cups up, bringing the cream to a point, place a piece of French cherry on top. This adds to appearance. Recipe for cream: 1 quart rich cream, two days old, 1 pound powdered sugar, 1 teaspoonful vanilla. Whip the cream in a pan or kettle with a wire wisp until it is quite thick, then add sugar and flavor. Some use gelatine, but this is not necessary when the cream is good.—*The Helper.*

**KEEP HAIR IN CURL.**—The following preparation will keep hair in curl: Carbonate of potassa, two drams; water of ammonia, one dram; glycerine, four drams; alcohol, twelve drams; and rose water, eighteen ounces. Mix and filter. Apply liberally, and roll the hair in crimpers.

**LIQUID BLUING.**—To prepare liquid bluing for laundry purposes, take one ounce of soft, finely-powdered Prussian blue, and put in a bottle with one quart of filtered rain water, then add one-quarter of an ounce of oxalic acid.

**BRITTLE NAILS.**—Finger nails which are brittle may be toughened by anointing them at night

with a compound composed of tar, eighteen grains, pure lard, one ounce. Wear gloves at night and wash the hands thoroughly with warm water and soap on arising.

## ADULTERATION.

### HOW CHEAP AND INFERIOR SUBSTANCES ARE MIXED WITH BUTTER, SUGAR, LARD, ETC., AND SOLD FOR THE GENUINE ARTICLE.

Nearly every article of food that is sold can safely be said to be more or less adulterated. Not that the pure article cannot be bought or that all dealers are dishonest, but that the purchaser must know what he is about or he will in many instances be given adulterated substances. Indeed, in some cases, it may be said that the customer prefers the adulterated to the pure article, so depraved has his taste become by long continued use of the former. Instances are many where people have become so accustomed to drink coffee mixed with chicory, peas, and the like, that they will send back to the store as inferior in taste the very best Java. This, however, is no excuse for the deceit.

Adulteration has now become a fine art, and in those articles on which there is but small margin of profit when sold legitimately, it is carried on with skill worthy of a better cause. For instance, a firm, whose manufactory is in South Brooklyn, is making and selling as butter a substance which has not even the merit of oleomargarine to recommend it. Oleaine (the oil of fat), lard, and good butter are melted in a tank and thoroughly mixed, when it is put into new Welsh tubs and sold to shippers as butter. Such little butter as is used in this process is really of a fine grade, but it is only used to give color and flavor to the substances. Of course much money is made by this deception.

Sugar, however, is more largely adulterated than any other article, as is well known. Often times the legitimate profit on this article is very small, and then the disreputable dealers resort to "ways that are dark" to increase their returns. For instance, grape sugar (made together with glucose, from corn) is used as an adulterator. It is ground very fine and then mixed with refined sugar. The manufacturers of this substances do not refine their own sugar, but purchase it from larger refiners. The latter latterly refused to sell to these dealers because the sale of the adulterated article interfered with their own business. The mixture costs about three and a quarter cents a pound, while the cheapest sugar cannot be purchased for less than seven cents, and there is consequently a large profit. It is understood, however, that the manufacturers of this mixture now have no difficulty in purchasing refined sugar and are prosecuting their business with success. It is difficult to detect the adulteration, but grape sugar has no grain and will leave a sediment in the cup.

New Orleans molasses is also imitated by mixing glucose, worth about 42 cents a gallon, and "black strap" at 20 cents a gallon and other substances, creating a syrup of a rich amber color, which is much sought after by many buyers, who imagine they are purchasing the best. Those who wish the real genuine syrup should buy that having a very dark color. The adulteration is put up in second-hand New Orleans molasses hogsheads, the dealers paying 35 cents apiece more for these than for new barrels of a different make.

Again there is what is known as a Scotch process of adulterating sugar. Many persons are complaining nowadays that they can no longer sweeten their coffee or tea. Where they formerly put in only one teaspoonful they are obliged now to increase the quantity threefold. The reason can soon be explained. The makers take good imported sugar, boil and reboil it. The syrup thus made they mix with yellow sugar, making that brown, damp, soggy sugar so largely sold at corner groceries. The difference in price between it and the best sugar is only about two cents a pound, but the latter contains 100 per cent more sweetness; so that the latter is really the cheaper article. In making 1,600 barrels of this sugar about fifty barrels of syrup are used.

Lard is also adulterated, especially so, it is said, for the Cuban market. The stuff sent there is said to be made of lard, tallow and what is known as "gut lard," besides other things which need not be mentioned. Why this stuff should be so largely exported to Cuba, while only the very best refined lard is sent to South America, is a mystery, but so it is. The continent of Europe also imports a fair quality of lard. Our home consumption consists of the natural lard, unrefined.

And so through a long list of articles do adulterations extend. That the Chinese color tea for the American market, though they do not drink it themselves, is well known. The holds of coffee-vessels are swept and the leavings are preserved, cleaned slightly, and then sold as a sort of combination coffee; but any one knowing of what the combination sometimes consists would be slow in purchasing any more.—*N. Y. Commercial Bulletin.*

## HYGIENIC.

### COLOR HEARING.

#### THE FACTS AND THE THEORIES.

The *Chautauquan* for January has a translation of an article by Alfred Binet on the problem of color hearing. There is no doubt that color hearing is a real phenomenon. The number of observations, and the conditions under which they were made, would seem to preclude the possibility of simulation. In general it has been learned that the impression of color is produced most generally by speech, although with some persons the apparition of colors occurs also when they see words printed or written. The sounds and noises of nature cause the same effect only as they bear an analogy to the human voice. The impression of color is given only when speech is clearly uttered. The tone of the voice influences the tints and shades; the baritone and the bass voices awaken sensations of dark colors, and shrill voices, light colors. The color depends chiefly upon the separate words pronounced. Every word has its own color or rather colors; the color of the word depends upon that of the letters composing it, so that it is the alphabet which is colored. The consonants, however, have only pale and obscure tints, and the coloration is derived directly from the vowels. As to detail in colors there have been recognized various shades and tints following no regular order. A letter may appear red to one, black to another and yellow to another. As a rule there is also disagreement as to the number of colors.

As to the explanation of the phenomenon, the trouble lies in the imagination. The impressions of color produced by hearing certain vowels are not real sensations, but mental images, ideas. The mental state of persons having color hearing is



characterized by the direction of the thought toward color, and each word gives to the mind complex ideas. Each word provokes two ideas instead of one—the idea of the subject of which the word is the name, and the idea of color. When color hearers catch the sound of a simple sentence, such as “I am going to the country,” they have a complex representation of such a trip, and, besides, see passing before their eyes in imagination a succession of colors. It is supposed that color hearers belong to the category of visualists—those who have the power of making that which is seen by the mind only, visible to the eye. The association between the sound and color dates in all cases back to infancy; and whatever color is connected with a sound at the beginning, remains always attached to it.

As to the occasional causes determining this peculiarity, little is known. Perhaps it will be found that it arises from the first picture book with colored letters given to the child to amuse it and the color becomes forever after inseparable from the letter. Perhaps also the sound of certain words which are the names of colors are detached by a sort of abstraction, and carry the reflection of the color into the other words in which the same sound enters. Mr. Galton publishes an observation concerning a certain Englishwoman to whom the letter *e* appeared red. She supposed it arose from the fact that *e* was in the word *red* and that the letter always suggested to her the color.

#### EFFECT OF DIET.

##### DR. SALISBURY'S FOOD EXPERIMENTS.

Especial interest attaches to Dr. Salisbury's food experiments. The half-dozen sturdy fellows whom he put on a diet of baked beans and coffee exclusively all showed symptoms of locomotor ataxia, or progressive paralysis, on the tenth day, and by the sixteenth day not one of them could walk straight without support; all had chronic diarrhoea, heart palpitation, and oppressed breathing.

Four hearty, well men were put on oatmeal porridge—seasoned with butter, pepper and salt—with a pint of coffee containing sugar and milk at each meal. Constipation, flatulence, headache and dizziness were afflicting them all on the eighth day. In two days more these conditions had become violent; exertion produced heart palpitation, and they were full of wandering pains, with prickling in feet and hands.

These disorders grew more intense and painful—with neuralgia induced in three cases—until from the twenty-third to the twenty-fifth day, when diarrhoea set in, and the record is full of such entries as “Eyes wild, hearing impaired, head confused, memory poor, legs and feet numb, quite deaf and listless, heart palpitates and very irregular,” up to the thirtieth day, when it was deemed imprudent and unsafe to carry the experiments further, and in four days more, by a meat diet and hot water, the men were restored to normal health. It may be well to observe here that in all cases men experimented on were as thoroughly and quickly cured of their abnormal conditions by those means.

Violent chronic diarrhoea, such as often prevails in armies and is known as “camp diarrhoea,” was produced in three hearty, strong men by feeding them exclusively upon army biscuit in from from nineteen to twenty-one days—a spell of constipation preceding—and microscopic examination proved that they were literally filled with yeast germs. Each had marked symptoms of locomotor ataxia, and partly lost the use of his lower limbs.

Bread, rice, wheaten grits, hominy, sago,

tapioca and potatoes were each fed to four or six men at a time for periods of from forty to forty-five days before serious diseases and symptoms were produced. Green peas and string beans ranked next in point of alimentary qualities. Green corn, turnips, beets and squash quickly produced unpleasant and grave derangements, but of all vegetables asparagus was found most injurious when lived upon alone. Seven days is about as long as it would be safe to subsist upon this plant, owing to the effect upon the kidneys.

Patients have lived exclusively on beef and mutton for from three to four years. Still, if one sticks to them too long they are liable to become monotonous, and may cause “meat dyspepsia,” which is dangerous. People who live exclusively on vegetable food, as the Hindoos, are enabled to do so by inherited organic tendencies. Their stomachs are of little or no use to them. The pyloric valve, being permanently paralyzed, remains open, so that vegetable matter passes directly into the proper field of its digestion.—*The Pharmaceutical Journal of Australasia*.

#### BEWARE OF CONSUMPTION.

##### TO AVOID CONSUMPTION BREATHE PURE AIR.

By Dr. John S. Billings.

If a person inhales some of the dried, or partially dried, spores or rods of the bacillus of tubercle, the probability that he will become affected with consumption depends partly on the number of spores which he has inhaled, and partly upon his own physical condition, and especially on the condition of the layer of cells which lines his air passages. Probably the great majority of people living in cities inhale more or less tubercle germs in the course of five years, yet only one in 100 becomes infected. Certain persons seem predisposed to consumption, to use a common phrase—it used to be supposed that the disease was hereditary because such a large proportion of cases occurred in certain families. We now know that the disease cannot be produced without the presence of specific bacillus, and that this bacillus very rarely passes from mother to child. Many cases of supposed inherited consumption are really due to infected houses, bedding and other articles, for the spores retain their vitality for years; but probably the blood and tissues of some persons are more favorable to the growth of bacillus than others, and the susceptibility thus produced may, no doubt, be inherited. Moreover, this special susceptibility can be artificially produced. This is effected by rebreathing air which has recently been in the lungs of a man. It requires some time to produce this result, but the experience of armies, where the soldiers are kept in unventilated barracks, leaves little room to doubt that long-continued breathing of foul air produces a condition in the lungs that is specially favorable to the growth of the tubercle bacillus. Anything that produces a chronic irritation and congestion of the lungs and air passages tends to lower the vitality of the lining cell layer, and to make it a better soil for the growth of the germ. Hence those occupations which bring numbers of people together in ill-ventilated rooms and which produce dusts are especially liable to induce tuberculosis, while those which are carried on chiefly in the open air are more free from danger from this disease. The death rate from consumption among farmers and fishermen is less than one-fourth that from the same cause among file cutters, potters, and printers, and less than half that of the workers in cotton and woolen mills. The high death rate among printers is almost exclusively due to consumption. The habitual criminal class is also

specially liable to this disease, and there are few jails or penitentiaries not infected with it.

It is very satisfactory to note that the death rate from consumption has decreased in this country within the last ten years, as shown by statistics of different States and cities. Thus Dr. Flick points out that in Philadelphia the death rate from this cause was, in 1870, 3.42; in 1880, 3.17, and in 1890, 2.64 per 1,000, and considers that this is due to increase in the popular belief in the contagiousness of the disease, and to the increasing tendency on the part of physicians to urge special measures of prevention in all cases which they attend.

To the man who has lost near relatives, parent, uncle or brother by consumption, the practical question of interest is, “What can I do to keep myself and my children free from it?” The avoidance of infected houses and rooms, the living as much in the open air as possible, and the securing of abundant ventilation for the offices, workrooms, and especially for the sleeping-rooms which must be occupied, are the most important measures.

#### DISINFECTION.

##### CONTRIBUTIONS TO THE STUDY OF DISINFECTION.

Professor J. Maschek, whose name is already familiar to us through his investigations on water bacteria, has brought together in pamphlet form (*Beitrage zur Theorie und Praxis der Disinfection, von Prof. J. Maschek*) a large number of experiments on the relative value of various disinfectants and disinfectant processes. Since the introduction of Koch's methods, the study of the subject of disinfection has been immensely assisted, and it is now possible to take a more accurate measure of the extent to which micro-organisms are affected by different treatment, whether chemical or mechanical. The stimulus which it has thus received has not unnaturally drawn a large number of workers into this particular field of inquiry, and the literature is already very unwieldy.

One of the principal difficulties which surround the study of micro-organisms is their individuality, their apparent idiosyncrasies; and this is not confined to closely allied varieties, but is found among members of one and the same species. Thus, the previous history of a micro-organism, the nature of the culture material used, the temperature at which the cultivation has been kept, the age of the growth, etc., are all points which have to be taken into consideration as likely to influence the behavior of the particular specimen under observation. This sensitiveness of bacteria may possibly to some extent account for the discrepant results which have been obtained by different investigators, although working in similar directions, which has rendered the accurate appreciation of the value of these results a by no means easy task. Again, what succeeds in a laboratory is not necessarily equally successful when carried out on a large scale, and it is this difficulty which has so frequently led to such disappointing results in actual practice.

Prof. Maschek has endeavored by a series of most arduous and painstaking experiments to throw a little more light on some of the problems of disinfection, and in gathering up his work has wisely abstained from attempting an exhaustive survey of the general literature, restricting himself to a brief introduction and particular reference to those investigations with which he has been more closely concerned. In the majority of the experiments the author employed Koch's well known method of sterilized silk threads, each of which was subsequently impregnated



with pure cultivations of a number of different pathogenic micro-organisms. These were distributed in various parts of a room about 19 feet long, 13 feet wide, and 15½ feet high, on the ceiling, walls, corners, floor, etc., while in some cases they were wrapped up in different materials, such as filter paper, muslin, linen, in order to imitate as nearly as possible the actual conditions under which the organisms might be supposed to be present in an infected room. In each case, after the application of the disinfectants under observation, these silk threads were submitted to plate cultivation, and in some instances their pathogenic properties were also tested by inoculation into animals.

The first elaborate series of experiments was made with the vapor of corrosive sublimate, which some authorities have recommended as an effective germicidal agent; but quite apart from the difficulty of getting rid of the poisonous crystals of corrosive sublimate which remained attached to various parts of the room, Prof. Maschek was not able to obtain satisfactory results, although every precaution was taken to insure success. In this respect his experiments differ from those of König, who confidently recommended its use for disinfection purposes. The effect of chlorine gas was next tested and applied both in the dry and damp state. The results were, however, far from encouraging, for even when employed in the damp state the spores were not destroyed. In connection with these experiments a very instructive instance is given of the signal failure which accompanied the use of chlorine in the Alexander Hospital in St. Petersburg, which was designed for receiving different infectious illnesses. Suspicion as to the efficacy was first aroused after its use in the disinfection of a ward in which diphtheria patients had been treated. This ward was afterwards used for scarlet fever cases, and subsequently complications with diphtheria made their appearance in consequence of which the ward was closed and disinfected with chlorine. (A ward of 900 cubic meters capacity being subjected to the chlorine gas evolved in treating 50 kilos. of chloride of lime with 65 kilos. of hydrochloric acid.) After the disinfection was completed the ward was thoroughly cleansed and ventilated, and allowed to remain empty for seven months. On its being reopened for the reception of measles cases, complications with diphtheria again arose, although the patients when taken into the ward were wholly free from diphtheria. The measles patients were therefore removed and the ward was again disinfected with chlorine, only this time a much larger quantity was employed (135 kilos. of chloride of lime with 148.5 kilos. of hydrochloric acid), after which it stood empty for another seven months. Later on cases of small-pox were received into this ward, but diphtheria again appeared, the physician, two nurses, and an attendant being among those attacked, while complications with diphtheria again occurred among the patients. In consequence of this the unfortunate ward was once more closed and thoroughly disinfected with chlorine, and was reopened for typhoid fever patients; but all children's cases were rigorously excluded, in consequence of their particular susceptibility to diphtheria. After the adoption of this special precaution no further attacks of diphtheria were met with. It might, however, be urged that as regards infection of patients suffering from measles with diphtheria, the disease was possibly introduced from outside, and did not necessarily arise in the ward itself, were it not for the fact that there were three other wards in the hospital in which cases of measles were being treated at

the same time, and no single attack of diphtheria occurred. Krupin, who is the authority for these facts, confirming the valuelessness of chlorine for disinfecting purposes, found that the spores of anthrax were not destroyed in a hospital ward after being exposed to the action of this gas for more than forty hours.

[To be continued.]

## MEDICAL.

### VICARIOUS ALIMENTARY SUBSTANCES AND THEIR APPLICATION IN THE FOOD OF HEALTHY AND SICK PERSONS.

(BY PROF. DR. UFFELMANN, ROSTOCK.)

We understand by vicarious substances a class of substances which are able to reduce the quantity of N and C consumed by the body. If it should be in our power to diminish the oxydation of albumen and fat in the organism of a healthy person by tendering him substances which are savourous, digestible and cheap, we would improve his economic situation together with his condition of nutrition, and if we should be in a position to obtain a decrease of consumption which is increased in acute and chronic fever, we would exercise a favorable influence on the forces of the patient. Finally, if in convalescence we could favor the restitution of albumen and fat by the administration of vicarious substances, we would hasten the patient's capacity for work.

Vicarious substances in this sense are: The gelatinous substances, the neutral fats, the fatty acids, glycerine, the carbohydrates, the pectine substances, the organic acids and their salts, as well as alcohol.

One hundred grm. gelatine will replace not less than 36 grm. albumen corresponding to 173 grm. flesh; in the same way gelatine will act as a succedaneum of fat, 100 grm. gelatine standing for 25 grm. animal fat. Unfortunately, it is impossible to ingest large quantities of gelatine (so much cheaper than albumen) on account of repugnance, nausea and fetid diarrhoeas making soon their appearance; yet a quantity of 25-30 grm. in our daily alimentation is well supported and is accepted without any repugnance.

Neutral fat shows a similar action. An addition of fat to the albumen enables the body to be satisfied with smaller quantities of the latter and, with a favorable proportion of fat to albumen, to store the latter up. 100 grm. fat replace, or eventually save, 7 grm. albumen, and a man supporting well and with ease 75 grm. fat daily on an average, this would save 5.25 grm. albumen.

Among the various classes of fat, butter is most easily digested.

Incontestible vicarious substances are the carbohydrates; the saving of albumen by them amounts to 9 per cent on an average; in the saving of fat 240 grm. carbohydrates and 100 grm. fat are isodynamic. As a rule a healthy adult person is able to digest daily without molestation 500-600 grm. carbohydrates.

Closely related to the carbohydrates are the pectine substances which are contained in the flesh of fruits and which are a chief constituent of fruit-jelly.

As to alcohol, it has been found that a vicarious action is only obtained by ingestion of small doses, while the use of larger quantities is always accompanied by a decided increase in the decay of albumen.

Gelatine is best applied in the shape of soups and jellies to which condiments are added. Tendons, cartilages, fasciæ and the like, mostly considered as refuse, as well as bones, including com-

mercial gelatine, may be converted into nutritious food according to determined culinary prescriptions which should be studied in their original wordings. Of these dishes a fit use may be made especially for sick persons, gelatine being easily digested. In diabetes too, as well as in gastric catarrh, gelatine has proved to be a good aliment.

In convalescence from severe maladies gelatinous dishes are of peculiar advantage. By adding in this case a very small quantity of albumen, besides gelatine, fat and carbohydrates, the body will be maintained in its normal status. Under these circumstances every increase in albumen, ingested, leads to storage of albumen, every increase in non-nitrogenous alimentary substances leads to storage of fat.

For healthy persons gelatinous substances are of peculiar advantage whenever cheap alimentation is aimed at. Superintendents of people's kitchens, of poorhouses, of prisons as well as military administrations are urgently advised by the author to adopt dishes of this description in their bills of fare.

Fat is not well supported by patients in condition of acute fever; for the purpose of nevertheless ingesting the indispensable quantity, it is necessary to make use of mucilaginous soups provided with the easily digested fats of butter and egg-yolk.

In chronic fevers fat is supported much better; it is well known that phthisis often attain a daily consumption of 120-150 and even 200 grm. of fat. As a rule it is supported equally well by diabetics, acting in their disease as an excellent vicarious substance.

Almost all carbohydrates being easily digested, they find an extensive application in the alimentation of patients. They provide the body with carbon, furnish heat and save the consumption of albumen and fat. In cases of acute fever soups of grain flour, decoctions of bread with sugar, bread-water, sugar-water and gulpo, a very pleasant beverage made of sugar-water and flour, are to be recommended. Chronic patients may have besides the aliments mentioned, some potato-puree, rice pap, rye pap and soft bread.

Pectine substances are especially valuable for patients, since many pleasant dishes are easily prepared with them; among others the numerous fruit-jellies, which are liked by healthy as well as by sick persons on account of their refreshing tastes.

As a rule patients in condition of acute fever, with their considerable consumption of N and C and with their reduced power of digestion for albumen and fat, will be given in moderate or small quantities of the two latter substances, while carbohydrates, gelatinous and pectine substances, as well as organic acids, will enter into their alimentation in larger proportions. In chronic fever larger quantities of albumen, fat and carbohydrates will be allowed. Finally, in convalescence for the purpose of replacing the lost albumen and fat, large quantities of both, medium quantities of carbohydrates and as much gelatinous substances as the person may support will be given.—*Wiener Klinik*.

A WOMAN'S ANSWER.—He—If I should ask you to marry me, what would you say?

She—Guess.

He—Well—er—what would it rhyme with?

She—Guess.

THE WOLF AND LAMB.—The wolf and the lamb lie down together; but it is always the wolf that makes the proposition, and he is liable to get hungry the moment he gets wicked.



## HYSTERIA AND CIVILIZATION.

The editor of the anthropological department of *Science* says that the notion that diseases of the nervous system, especially those of a hysterical character, have greatly increased with the development of civilization and are most common in the races of highest culture, is simply an error due to insufficient ethnological information among the physicians who have made the assertion. Reliable travelers report that in uncivilized nations violent and epidemic nervous seizures are very common. Castren describes them among the Siberic tribes. An unexpected blow on the outside of a tent will throw its occupant into spasms. The early Jesuit missionaries paint extraordinary pictures of epidemic nervous maladies among the Iroquois and Hurons. The Middle Ages witnessed scenes of this kind, impossible to-day. Dr. De la Tourette points out the frequency of true hysteria and hysterical seizures in the black race, among the Hottentots and the Caffirs of East Africa, and among the natives of Abyssinia and Madagascar. They present frequent cases of classical hysterical attack, and occasional epidemics of chorea-mania affecting both sexes.

Civilization, it is said, so far from increasing this class of maladies, is one of the most efficient agents in reducing them in number and severity. When it is freed from certain elements not essential to it, especially religious excitement and competitive anxieties, it acts decidedly as a preventive.—*National Druggist*.

## CHEMISTRY OF DIGESTION.

Dr. A. L. Gillespie points out that, though hydrochloric acid is a powerful antiseptic and capable, in dilutions of .1 to .2 per cent, of inhibiting or destroying most minute organisms, the addition of proteid matter to it, and formation of what he terms proteid-hydrochlorides in the process of digestion, allows the same organisms to flourish luxuriantly, though the strength in acidity be maintained. After a meal consisting largely of proteids, generally an hour elapses before the advent of free hydrochloric acid, and the gastric juice is therefore much less antiseptic than after a meal of carbohydrate material. It is suggested accordingly that, since a typhoid or other pathogenic bacillus ingested during a heavy dinner has a more favorable opportunity for development than if it were taken with such food as porridge, it would be well if there were any danger of poisoning by disease germs to take nothing with a proteid meal except it had been thoroughly cooked, or, as alternatives, to live chiefly on carbohydrates, or to take some dilute hydrochloric acid after each meal.—*Medical Magazine*.

## NEW CHEMICAL REMEDY.

A valuable addition to the list of vulneraries, among the synthetical remedies, is believed to be presented in the substance known as dermatol—chemically a salt-galate of bismuth, insoluble in water, alcohol and ether. It forms a yellow powder similar in appearance to iodoform, but, in contrast to this, entirely odorless, beside being stable and unaffected by exposure to light or air, and can be sterilized by steam either as substance or in the form of gauze, without decomposition. It is anticipated that, in surgery, dermatol is to prove valuable as an antiseptic, astringent and as an eminently drying agent; by virtue of this last property, it has proved an excellent vulnerary, especially where the wounds are characterized by profuse secretion—in eczema, burns, ulcers—and,

for the same reason, is successfully applied in the treatment of diseases of the eye and ear. Experience shows that it diminishes symptoms of irritation, lessens secretion, furthers the formation of granulations, and thus leads to a strikingly rapid healing-over of the wound.

## COLOR PERCEPTION IN SAVAGE RACES

From various investigations made of the subject the opinion would appear to be justified that savage races possess the perception of color to a greater degree than do civilized races. This is made evident by the facts presented by Dr. Webster Fox, before the Franklin Institute, Philadelphia, his statement covering the results of some two hundred and fifty examinations among Indian children, one hundred of these being boys. Researches of this character show that in a selection of one hundred white boys from various parts of the United States, at least five of the number would have proved color blind. Among all these Indian boys not a single case of the kind was discovered. Some years ago an examination, by Dr. Fox, of two hundred and fifty Indian boys resulted, he states, in the discovery that two were color blind—a very low percentage when compared with the whites—while none of the Indian girls were thus affected.

## WORM LOZENGES

## A SOURCE OF DANGER.

Confections of santonin, variously known as worm lozenges, worm troches, and worm confections, have been employed as domestic remedies for intestinal worms in children as far back as we can remember. It is a popular form of administering this well-known anthelmintic, and is resorted to by anxious mothers, without fear of untoward effect, just so soon as they have diagnosed "worms" to their own satisfaction. And when an accident happens, such as has been recorded recently, where a child two and a half years old is reported to have died from the effects of eating ten cents' worth of the troches, it attracts but little attention, and the sale of the lethal confections goes on as briskly as before.

As found in the shops, the worm troche is a small cake of sugar, oval in shape, usually of a pinkish color, and flavored with wintergreen. It cannot be easily distinguished from the ordinary confectioners' sweetmeat, and is altogether a very inviting-looking morsel. It is this inviting appearance and the ease with which the troches may be procured by any person on demand which renders them such a source of danger. They are sold at the rate of ten cents per dozen, and when it is remembered that each troche contains exactly one-half grain of santonin, it will be readily understood how accidents may happen. Carelessness on the part of the child's guardians has been responsible for the majority of casualties reported from this source, and the child has in most instances been allowed to help itself to the toxic dose.

Some reform in the sale of domestic remedies of this description is evidently needed. The sale of santonin troches, in particular, should be restricted; and although a somewhat extreme measure, it would be in the interests of public safety to place santonin on the "poison schedule" and prohibit its indiscriminate sale in any form. In the meantime, it is to be hoped that druggists themselves will take sufficient interest in the matter to see to it that parcels of santonin troches are properly labeled before they are sent out.—*Pharmaceutical Record*.

## MEDICAL ANNUAL FOR 1893.

## ANNOUNCEMENT.

E. B. Treat, publisher, New York, has in press for early publication the 1893 International Medical Annual; being the eleventh yearly issue of this extremely useful work.

A glance at the prospectus gives promise that the 1893 issue will be better than any of its predecessors.

There are thirty-eight distinguished specialists on its corps of editors, carefully selected from among the most eminent physicians and surgeons of America, England and the Continent.

It arranges in a practical way for ready reference what is worth preserving of the year's medical literature, together with a number of important papers specially written; and will contain over 6,000 references to diseases and their remedies; many illustrations in black and colors being used where helpful in explaining the text.

The service rendered by this work, giving the year's progress in medicine and surgery so conveniently and at so low a price (\$2.75) cannot be overestimated.

Altogether it makes a most desirable, if not an absolutely necessary, investment for the practitioner.

## MISCELLANEOUS.

## CHEMICAL ARTS IN BIBLE TIMES.

BY DR. H. CARRINGTON BOLTON.

Abstract of a paper read before the New York Academy of Sciences.

Chemistry, considered as an art, dates its origin from prehistoric times; considered as a science, it is little more than one hundred years old. The attempts of man to improve his surroundings as respects diet, clothing, and domestic economy familiarized him with certain phenomena now recognized as chemical. The necessity of securing weapons for war and for the chase, and the attempts to alleviate disease, stimulated the application of chemistry to metallurgy and medicine. Among the sources of information concerning the very earliest period is the Holy Bible, which contains a surprising number of facts and allusions to chemical arts. The ancients were acquainted with seven metals, of which six are mentioned by Moses in a single verse (Numbers xxxi. 22): "Only the gold and the silver, the brass [*i. e.*, copper], the iron, the tin, and the lead," are to be purified by fire when captured as spoil from heathen nations.

Tubal-cain, the seventh from Adam, seems to have excelled in metallurgy, and apparently aided his brother's musical taste by his skill. The remarkable passage in Job xxviii. 1, describing the occurrence of ores and their metallurgic treatment, is well known. With this can be compared Ezekiel xxii. 18. Jeremiah, in chap. vi. 28, seems to describe the process of cupellation of gold and silver.

Of the seven metals, gold is the most attractive and, occurring native, was early known to men. It is named among the attractions of the Garden of Eden (Gen. ii. 12), and was manufactured into ornaments for personal decoration at a very early period. Of its abundance in King Solomon's reign, testimony is striking. (I. Kings x. 21 and II. Chron. i. 15.)

Silver was early used in currency (Isaiah xlv. 6), and, as the pieces were not stamped, "wicked balances" and "deceitful weights" were unhappily too common. (Micah vi. 11.)

Copper, commonly called brass, is named by Moses as occurring in the Promised Land (Deut.



vii. 9), and is compared in value to gold by Ezra (Ezra viii. 25). Its alloys were in common use.

Tin and lead were frequently confounded in early times, the latter being called "soft tin." The use of leaden tablets for inscriptions is graphically described by Job (Job xix. 23). Solder was known to the Israelites (Isaiah xli. 7) for repairing metallic trinkets. Among the many articles manufactured of iron are "chariots" (Judges iv. 8), "spear heads" (I. Sam. xvii. 7), "axes" (II. Sam. xii. 31), "yokes" (Jer. xxviii. 14), "idols" (Dan. v. 4), "threshing instruments" (Amos i. 3), and "nails" (I. Chron. xxii. 3). The "bedstead of iron" belonging to Og, King of Bashan, was probably a sarcophagus of stone (Deut. iii. 10). The liquid metal mercury is not mentioned in the Bible nor by Herodotus, though known to Dioscorides and to Pliny.

Besides their metallurgical knowledge, the ancients possessed much skill in general chemical technology; they knew well how to prepare fermented drinks, wine (Gen. ix. 20) and vinegar (Ruth ii. 14).

Beer was known to the Egyptians, and is mentioned by Xenophon as a drink of the Germans about 100 A. D.

The apothecary's art reached a high stage of culture in Egypt, of which the famous Papyrus Ebers gives ample testimony.

Cosmetics were used by Hebrew women for frescoing their faces (II. Kings ix. 30), a custom still prevailing in the East. The art of dyeing fabrics in brilliant hues is among the most ancient of the chemical arts (II. Chron. ii. 7). The luxury of the Israelitish women is well described by Isaiah in chap. iii. 18-23.

The ancients were acquainted with alum, salts of iron, and copper and alkaline carbonates, and used them in mordanting. They also knew brilliant pigments whose durability is unsurpassed. Besides these chemical bodies, the ancients used sulphur, borax, sal-ammoniac, and saltpeter; but the word "niter" in the English Bible is not saltpeter; it is a translation of natron, which is carbonate of soda.

Lye is mentioned by Jeremiah (ii. 22), and soap by Malachi (iii. 2).

Gases as such were hardly recognized by the ancients; the Bible, however, contains one peculiar reference to carbonic acid gas. Solomon wrote: "As one that taketh off a garment in cold weather, and as vinegar upon niter, so is he that singeth songs to an heavy heart" (Proverbs xxv. 20). This refers to the effervescence of carbonate of soda when acted upon by the acid of vinegar.

In the apocryphal work of an Alexandrine Jew called the Wisdom of Solomon, a remarkable passage occurs which seems to foreshadow the fundamental laws of chemistry:

"Thou hast ordered all things in measure and number and weight."

Two centuries succeeding the birth of Christ saw many illustrious men, Pliny, Dioscorides, Plutarch, Ptolemy, Galen; but the succeeding six centuries were unfruitful in scientific research, owing to the intellectual degradation accompanying the anarchy which prevailed in the political world. Chemistry became "sacred art" or occult science, and was largely devoted to attempts at the artificial manufacture of precious metals, and the futile search for the philosopher's stone.

THE DOCTOR'S ADVANTAGE.—"My Pa," said one small boy, "is a preacher, and is sure to go to heaven."

"Huh!" said the other small boy, "that ain't nothin'. My pa is a doctor, and can kill your old pa."

## THE HEIGHT OF ADAM AND EVE.

I have often wondered where M. Henrion, the French savant, got his data for the curious speculations he gives as to the height and other proportions of Adam and Eve, says a writer in the *Philadelphia Press*. In his remarkable work, "The Degeneration of the Human Race," published in 1718, the learned academician gravely informs his readers that Adam was 123 feet and 9 inches in height, while his disobedient consort was but a paltry 118 feet from the sole of the foot to the crown of the head. Of course all who have read very extensively of Talmudic literature, or even Baring-Gould's "Legends of the Patriarch Prophets," remember the wonderful stories of how Adam was made: of his gigantic size, and how, after the fall, his stature was reduced by several miles by the offending God himself. The Talmud has this to say of Adam's height: "He was so tall that he stood with his feet on earth and his head in heaven until God pressed him down at the time of the fall." Rabbi Jhuda says that when he lay on the earth "his body completely covered it." Another Talmudic story says: "To judge how long he was, understand that his body stretched from one end of the earth to the other, and it takes a man 500 years to walk that distance. \* \* \* The angels were awed with wonder when they saw that gigantic human being and bowed before him crying: 'Holy, holy, holy.' Then God reduced his size by cutting off great chunks of flesh." These are all absurd legendary stories, of course; but where did Henrion get his figures for the 123-foot calculation mentioned in the opening?—See *Cyclopoedia*.

## A LAKE OF INK.

Near the eastern end of the remarkable volcanic area of Arizona is a little lake of ink-black water. It is about a quarter of a mile long and half as wide, and is fed by numerous little streams—some hot, some warm, and one or two cold—whose waters are strongly charged with different acid and alkaline salts. The water of the lake feels smooth and oily, and its taste is salt and bitter. Its temperature ranges from 110 degrees near the shore to 156 degrees on the surface at the centre and 216 at a depth of 250 feet. Though the water is jet black, it does not stain the skin of bathers, but the minute solid particles it holds in suspension adhere to and color the fibres of white cloth. The lake—a bath in which is wonderfully exhilarating—has long been famed among the Indians as a place of cure for all forms of disease.

## JAPANESE TIME.

Long before Japan was opened to foreigners did the Japanese possess eminent astronomical knowledge and a zodiac of their own. Their year began with our first of February and had twelve months. The day was divided in different manners: the military counted like our sailors, by "watches;" the priests by "divisions," which were marked by the striking of very large bells suspended in their high temples—a custom which is still in vogue; and finally the lay element, the population, reckoned by "hours." They began the day, which was divided into twelve hours, at sunrise, and ended it after sunset. Since the length of the day is a constantly varying one, each month was, for simplification, calculated into a mean length, and this length of day established for the whole month. The Japanese established a high degree of science by these calculations. Their clocks

were of two kinds—the so-called "long clock," with hand fastened to the descending weight, and marking time upon an upright dial, and the "round clock," with movable dial and fixed hand, or fixed dial and movable hand. To regulate the division of hours for the varying length of the different months, many very ingenious contrivances and constructions were used. The matter was comparatively easy with the long clock. Six dials, shortened according to the falling height of the weight on hand, were each divided into two parts, corresponding to the length of day and night; each of these parts into twelve subdivisions, the hours. Only six such dials were necessary, since, by reversion, a dial used for a summer month could be used for the opposite winter month. At the beginning of every month the corresponding dial was inserted under the hand connected with the falling weight, and replaced by the next following at the end. The greatest length of the day was fifteen, and the shortest nine, of our hours; and owing to the contracted space of the falling weight it had to be wound every morning. To use the clock during night time the dial was reversed, and the weight wound up. It is singular that the Japanese, in spite of this clock furnished with ratchet wheel, pendulum and weights, did not employ the spring as a motive power, but simply used it for striking on clock bells. The round clocks were provided with weights working upon levers. It is said that these constructions were very excellent, and very reliable clocks were produced therewith.—*Jewelers' Review*.

## THE SULTAN.

### HOW HE IS FED.

The author of "The Sovereigns and Courts of Europe," describes the present Sultan of Turkey as leading a very simple life. When it is said that he lives simply, however, the word must be understood as applying to his personal habits rather than to his official surroundings and expenditures. Thus it is estimated that more than six thousand persons are fed every day at the Dolma Bagtche palace when he is there. The treasurer of the household has a pretty heavy burden upon his shoulders.

There is a regularly organized force of buyers, each charged with the purchase of certain supplies for the palace. One man's duty is to buy fish; and to do this for six thousand persons is no light undertaking in a city which has no great markets. About ten tons a week are required, and to secure this some twenty men are kept busy.

Nearly 18,000 pounds of bread are eaten daily, and all this is baked in enormous ovens at some distance from the palace. Of course, a large force of bakers is required, as well as another large force of buyers and carriers of flour and fuel.

The Sultan's own food is prepared by one man and his aids, and no others touch it. It is cooked in silver vessels, and, when done, each kettle is sealed by a slip of paper and a stamp. This stamp is broken in the presence of the Sultan by the High Chamberlain, who takes one spoonful of each kettle before the Sultan tastes it—as a safeguard against poison.

The food is almost always served to the Sultan in the same dishes in which it has been cooked. If this dish is one of the baser metals it is set in a golden bell-shaped holder, the handle of which is held by a slave while the Sultan eats. Each kettle is a course, and is served with bread and a kind of pancake, which is held on a golden tray by another slave.

The Sultan never uses a plate. He takes all his



food from the little kettles, and never uses a table and rarely a knife and fork. A spoon, his bread, pancake or fingers are far handier.

Nearly a ton of rice a day is required for the inevitable *pilaff*, together with six hundred pounds of sugar, and an equal amount of coffee, to say nothing of the other groceries, fruit, vegetables and meat.

#### AMERICAN CANNED GOODS.

There is a tremendous agitation against the use of canned goods from America, says a cable from London. This agitation has increased since the passage of the McKinley law and the decrease of British income in the canning trade. A large number of instances of poisoning by eating canned goods has been reported and several cases recently have been credited to the same cause. Still the people persist in consuming enormous quantities of American canned goods, despite the doctors. Many deaths have been caused by eating canned goods among people who had no money to buy them any other food, and with a quarter a million people destitute in London the danger of starving appears a good deal more serious to the average Englishman than the danger from American canned goods. The latest attempt to create a sensation on the subject is an interview with the analyst, Hebner, who explains that the cause of the poison is frequently subject to the lead used in soldering, but the danger is oftener due to ptomaines, bacteria and existing alkaloids. The analyst gives his opinion that fruit ought not to be canned, and declares that the government must examine the whole question and appoint inspectors to examine American canned fruit, and not leave the lives of the people in the hands of the ptomaines and bacteria.

It is believed the government will take some action in the matter.

#### TOOLS OF THE PYRAMID BUILDERS.

A two years' study at Gizeh has convinced Mr. Flinders Petrie that the Egyptian stone workers of 4,000 years ago had a surprising acquaintance with what have been considered modern tools. Among the many tools used by the pyramid builders were both solid and tubular drills and straight and circular saws. The drills, like those of to-day, were set with jewels (probably corundum, as the diamond was very scarce), and even lathe tools had such cutting edges. So remarkable was the quality of the tubular drills and the skill of the workmen that the cutting marks in hard granite give no indication of wear of the tool, while a cut of a tenth of an inch was made in the hardest rock at each revolution, and a hole through both the hardest and softest material was bored perfectly smooth and uniform throughout. Of the material and method of making the tools nothing is known.

#### BLUSHING.

Blushing is not an art, neither is it an absolute sign of ill-breeding, as some unkind folk maintain. The fact is, it is just as natural for some people to blush on one occasion as it is for others to turn pale on another. The same laws of nature that govern the one rule govern the other. The capillaries, or small blood vessels, which govern the arteries and veins in the body form, particularly over the cheeks, a network so fine that it is necessary to employ a microscope to distinguish them. Ordinarily the blood passes through these vessels in normal volumes, leaving only the natural complexion. But when some sudden emotion affects the heart its action increases, and an electric thrill instantly leaps to the cheeks. This thrill is nothing more than the rush of blood through the invisible capillaries; the color is

nothing more than the blood just beneath the delicate surface of the skin. The causes that bring about this condition in the circulating system are called mental stimuli. They consist of joy, anger, shame, and the other emotions. Sudden horror, remorse, or fear, on the contrary, influences the nerves which control the blood vessels, and the face becomes white. Blushing and pallor result from the sudden action of the mind on the nervous system. So, if the mind be forewarned and prepared for emotions, both habits can at least be partially overcome. But when the nervous system is highly strung, it would be a lifelong, if not a futile, task to endeavor a permanent cure. It is the sensitive, nervous girl who blushes easily, while the girl stolid by nature or who, by education, has her nerves under perfect control seldom blushes.—*Medical Record*.

#### RED HAIR.

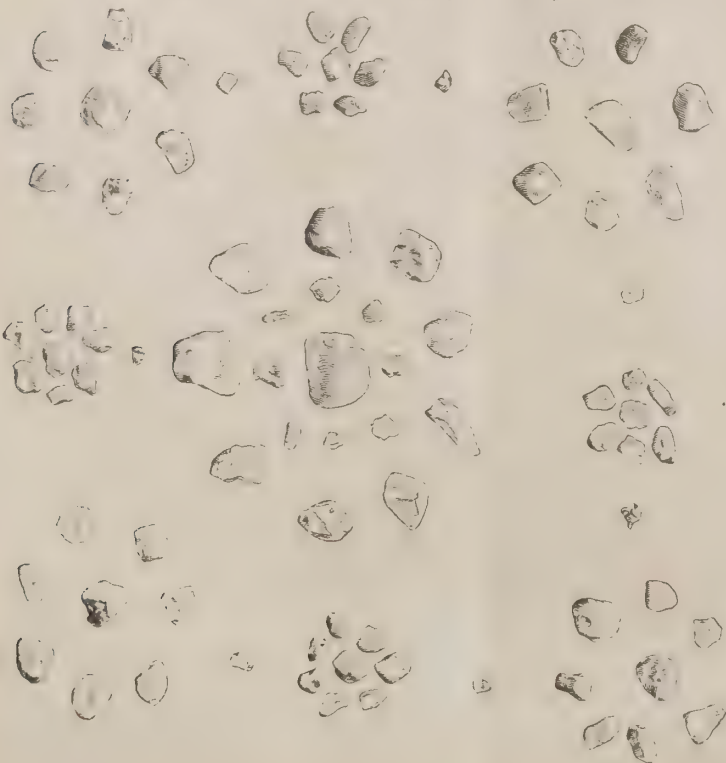
Science explains the phenomenon of red hair thus: "It is caused by a superabundance of iron in the blood. This it is that imparts the vigor, the elasticity, the great vitality, the overflowing, thoroughly healthy animal life which runs riot through the veins of the ruddy-haired, and this strong sentient animal life is what renders them more intense in all their emotions than their more languid fellow-creatures. The excess of iron is also the cause of freckles on the peculiarly clear, white skin which always accompanies red hair. This skin is abnormally sensitive to the action of the sun's rays, which not only bring out the little brown spots in abundance, but also burn like a mustard plaster, producing a queer, creepy, sensation as if the skin was wrinkling up."

The young man that thinks more of his tailor than his college professor is one whose success in life will depend upon his tailor.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

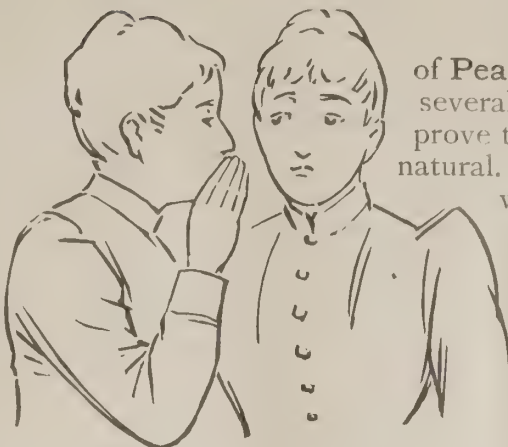
Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

**THOMAS F. GOODE, Proprietor,**  
**BUFFALO LITHIA SPRINGS, VA.**



## GUARD YOURSELVES IN TIME.

State and government authorities report to the country the gratifying assurance that the quarantine preparations for the protection of the port of New York against a cholera invasion next spring and summer are as perfect as it is possible for them to be made. At the same time no one is bold enough to say that any preventive measures will certainly be effective in keeping out the pestilence. It is by no means improbable that the germs are already here, lying dormant and awaiting only the coming of favorable weather for their development. Low temperature does not kill them, but only renders them temporarily inactive, and since the advent of cold weather there has been practically no restriction upon their importation from Europe by tourists and homecoming Americans, even if the dangers inseparable from reception of vast numbers of emigrants have been somewhat diminished. It need not, therefore, be matter for surprise if, even while we keep carefully tiled our seaward door, the dreaded visitor is already among us. And it is worthy of remark that a widespread impression prevails forecasting a cholera epidemic during the present year, a mental predisposition which, in the opinion of students of the operation of mental forces, is exceedingly likely to induce either the



people had to be educated. Third: The best advertising **Pearline** has ever had (and it costs nothing) is from every woman who has used it. She tells everyone how much it has done for her in all kinds of washing and cleaning; that while the cost is nominal, she has found it to be better than anything else, always the same, and perfectly harmless; and that the saving by using cheaper imitations for a year wouldn't be enough to pay for one ruined garment.

## Beware

send it back.

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as **Pearline**." IT'S FALSE—**Pearline** is never peddled, if your grocer sends you an imitation, be honest—  
JAMES PYLE, New York.

# Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to  
**Rumford Chemical Works, Providence, R. I.**

Beware of Substitutes and Imitations.

For sale by all Druggists.

genuine plague itself or such a simulation thereof as will be practically, in fatal effect, the same and probably productive of the real malady. In view of these facts it is of the highest importance to all who value their lives to establish their normal health conditions upon such a basis that they will not be liable to infection, that even if exposed to contagion their vitality will be strong enough to resist attack by the malefic "comma bacillus." The only certain means for attaining this desirable end is by bringing all the vital organs into harmonious perfection of operation. No part of the complex system can be safely neglected, for any that are below the general tone will be like weak places in the wall of a beleaguered fortress—points inviting attack. The digestive and assimilative functions are truly the foundation of all health, but none the less must the circulatory, respiratory, eliminative and nervous systems be strengthened and vitalized to insure immunity from disease. Happily, there is one medicine which acts upon all the animal economy with like beneficent force in each department, so perfectly are its ingredients adjusted to meet the requirements of a course of treatment which shall at once be alterative and, practically, reconstructive. That is Ayer's Compound Extract of Sarsaparilla. Its basis is the powerfully regenerative medicinal principles of the Honduras sarsaparilla, extracted by a cold process which preserves all the delicately volatile powers which are dispelled by the heat processes employed in the manufacture of other sarsaparilla extracts. These are re-inforced by the addition of the active principles of yellow dock, stillingia and mandrake, all extracted also by the cold process, and to the compound are added in due proportion that invaluable alterative, the iodide of potassium. So powerful is this medicine that it eliminates from the system the taints of the most virulent inherited and contracted blood disorders, yet so gentle and safe is its action that it may be given, with the best possible results, even to infants, if the directions for its administration are observed.

## The Secrets

of **Pearline's** success? Well, there are several. Here are some of them, just to prove that its enormous growth was only natural. First: The article was precisely what its makers claimed it to be; it has never changed—no improvement has been found. Used for years—always alike. Second: The public was kept informed about **Pearline**. This was necessary. With anything so new and so different from old ideas,

### SUBSCRIBERS TO THE AMERICAN ANALYST

will confer a favor by sending us the names of any of their friends and acquaintances who, they think, would be interested, and who would appreciate

### A FREE SAMPLE COPY.

## A. LEOFRED,

(GRADUATE OF LAVAL AND MCGILL)

## MINING ENGINEER,

Branch Office, Montreal.

Head Office, QUEBEC.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Harrothy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

**Chateau d'Orleans**, the highest grade Claret made in America.  
**Cabernet Blend**, the richest and finest of Table Clarets.  
**O V Chablis**, possessed of all the delicate pungency of its French counterpart.  
**O V Sauterne**, with the exact character and Sere of imported Sauternes.  
The **Chateau d'Orleans** and **O V Chablis** are sold in glass only.

"Eat **BEECHNUT** Hams and Bacon"



## BUSINESS NOTES.

### CATARRH CANNOT BE CURED

With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. J. CHENEY & CO., Props., Toledo, O.  
Sold by druggists, price 75c.

### HORSFORD'S ACID PHOSPHATE

For night sweats of consumption, gives speedy benefit.

Dr. W. B. Gillies, Winnipeg, Manitoba, says: "I have used it in a typical case of indigestion with biliousness, and found it to be, without exception, the best thing I ever used in such cases."

Dr. J. R. Fortson, Kiowa, Ind. Ter., says: "I have tried it for constipation, with success, and think it worthy a thorough trial by the profession."

### THE RAISING OF CHILDREN.

This is a task where experience is especially desirable. The first-born of young couples too often perish through ignorance of the needs of the infantile constitution and what precautions, medicinal and otherwise, are necessary to guard it from harm and rescue it when in peril. In this connection no sounder advice can be given to parents whose children are troubled with lung or throat disease, or are affected with marasmus or ricketts, than to keep always on hand a supply of Scott's Emulsion of Cod Liver Oil with the Hypophosphites of Lime and Soda. Feeble, nervous children speedily become more robust and thrive famously thereafter through its invigorating influence. Nothing repellant in its flavor disgusts them since it is endowed with a pleasant taste by careful chemical manipulation, and it is particularly susceptible of assimilation by a feeble or delicate digestive apparatus. It is ineffably fine in all diseases of the lungs and for scrofula, anaemia or feebleness of the gentler sex, rheumatism and wasting maladies and premature decay.

### THE GREAT NEW YORK CENTRAL SYSTEM

Stands as a magnificent contradiction to the argument against concentrated railroad interests. Coming into existence in 1869, by the consolidation of short lines between New York and Buffalo the system has vastly extended its control and to-day operates the principal passenger service out of New York to Chicago, Cincinnati and St. Louis. All through the history of its evolution from small things to the first of American railways, the management of this road have recognized that the people's interest was their interest; and that a policy that would best serve the public would be of greatest benefit to the road. This road to-day is giving the best passenger service in the world.—*Dirie.*

DIFFERENCE IN WEIGHT.—Guide—Now, ladies and gentlemen, you wouldn't believe it, but it's true, that these weights are so delicate that they mark the difference between a blonde and a brunette hair.

Tourist (opening memorandum book)—And which weighs the less?

Guide—The lighter one.

### PROF. HORSFORD.

HIS SUDDEN DEATH—A MAN NOTED FOR DISCOVERIES AND PUBLIC SPIRIT—HIS INVENTION OF ACID PHOSPHATE.

Prof. Eben Norton Horsford, who died suddenly at Cambridge, Mass., on New Year's day, was known throughout the country for his attainments in chemistry and his achievements in his special sphere of "science applied to the arts," but more especially for his researches relative to the early discovery and evanescent settlement of this continent by the Norsemen.

To our readers he is best known because of his invention of acid phosphate. To explain how this came about it is essential that a brief sketch of his life be given.

He was born in Moscow, N. Y., July 27, 1810, and received his early education in the district schools, and the Livingstone County High School. He took a course of study at the Rensselaer Institute, and graduated as a civil engineer when he was only 19 years old. Shortly after he had reached his majority he became professor of mathematics and the natural sciences in the Albany Female Academy, and remained there four years. Then he went abroad and studied chemistry under Liebig at Gliessen in Germany. When he came back he was appointed Rumford Professor of Applied Sciences at Harvard University. He remained at Harvard sixteen years. While there he was all the time making experiments and putting new chemical ideas into practical use. He secured no less than thirty patents and more than half of these on compounds like acid phosphate. He became very rich.

And now as to the Acid Phosphate. It seems that this invention grew as much out of a desire to help the soldiers as anything else. Acid phosphate, he reasoned, would be a great exhilarant, and he offered the Surgeon General of the army to supply the soldiers of the United States with quantities of the beverage for nothing and at his own expense altogether. After he left Harvard, he engaged in chemical manufacturing that was based on his own inventions.

Of late years he gave much time to geographical studies. His attention was called to New England cartography, and especially to the finding of the lost city of Norumbega. His investigations led him to believe that the ancient city was not in Maine but in Massachusetts. His first research led him to the old fort of Norumbega, to the mouth of Stony Brook, in the town of Weston. When he had decided from the ancient literature of the subject and from the modern geography where its site must have been, he drove to the spot, but a few miles from his own house, and there found the remains of ditches and walls. Five years later he announced the discovery of the site and walls of the ancient city of Norumbega at Watertown. His conclusion was inevitable; the maps, the books, the ancient walls, the results of his studies in the field, combined to convince him that this was the place which had been named in history and song, but which had long ago been lost to sight. He had already found the land full of Leif Erickson and the site of his houses in Vineland. In the summer of 1889 he erected a tower of stone at the junction of Stony Brook with Charles River to mark the site of the ancient fort and to commemorate the discoveries of Vineland and Norumbega.

In connection with his historical enterprise he found other extensive remains of Norse settlements along the upper waters of Charles River and elsewhere in New England. Following the old sagas he found that Leif Erickson, after his landfall on Cape Cod, sailed across the bay to

Boston harbor, and passed up the river Charles in the year 1000. The coincidences between the sagas and the river and its banks were striking, and as one point after another became clear to his mind he saw where Leif and his companions had come ashore and where they had built their houses. He issued monographs in which his investigations were described at length, with collections of rare maps, original charts and surveys and photographs. When the statue of Leif Erickson was erected in Boston in 1877, the historical address on the day of its unveiling was given in Faneuil Hall by Professor Horsford.—*New England Grocer.*

### BATES & MORSE.

THE NEW ADVERTISING AGENCY.

On January 1 Mr. J. H. Bates took into partnership his manager, Mr. Lyman D. Morse, the name of the firm now being the Bates & Morse Advertising Agency.

J. H. Bates is one of the pioneers in the business, and his agency ranks among the foremost of its kind. Mr. Morse has been associated with Mr. Bates for many years, and for over three years past has managed the business with an intelligence, zeal and fidelity which will now have even fuller scope. He is well known to newspaper men and advertisers, and the prosperity of the agency will be advanced and augmented by this change.

### A QUEER ADVERTISEMENT.

The following funny announcement appears in a South African paper:

HASH IS HASH,  
Give it all the French names you like, it's the same  
Old Resurrection  
Bobbing up serenely.  
That is why you find everything at the  
Jerusalem Hotel


Printed in Plain English. And you may resign yourself to the fact that at the above Show  
Resurrection is a Dish Unknown.

WHY NOT?—Van Braam—I am going to give my washerwoman \$5 on Christmas.

Hiland—Why don't you pay her all you owe her?

THE GREAT MEDICINAL FOOD

# IMPERIAL GRANUM



NOURISHING • PURE • DELICIOUS

## FOOD

FOR NURSING-MOTHERS, INFANTS AND CHILDREN.

FOR INVALIDS AND CONVALESCENTS.

FOR DYSPPEPTIC, DELICATE, INFIRM AND AGED PERSONS.

AN UNRIVALLED

## FOOD

IN THE SICK-ROOM.

SOLD BY DRUGGISTS. SHIPPING DEPOT — JOHN CARLE & SONS, NEW YORK.



# KINGSFORD'S OSWEGO STARCH

The Standard of Excellence.

"PURE" AND SILVER GLOSS  
For the Laundry.

CORN STARCH  
For the Table.

ABSOLUTELY PURE IN QUALITY.

## TABASCO PEPPER SAUCE OR LIQUID PEPPER.

IS SIMPLY THE PULP OF THE RIPE PEPPER EXTRACTED BY PRESSURE.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced by connoisseurs to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

MANUFACTURED BY

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FOR SALE BY ALL WHOLESALE GROCERS.

ESTABLISHED 1823.

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New York Office, - - - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT and PARK & TILFORD.

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Any of our Subscribers desiring other Publications for the ensuing year can save considerably by writing to us, mentioning what Publications they want, and we will send them our Club Rates.

## SWIFT'S

CHOICE

## CHICAGO DRESSED BEEF

AND

## MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

## RHEUMATISM AND NEURALGIA

are being constantly cured by Robinson's "Sura Cura," a positive antidote for all impure states of the blood. Price \$1, sent by mail. Send for circular.

R. W. ROBINSON & SON,

184 Greenwich St., N. Y.

## PATENTS

HOPKINS & ATKINS,  
Washington, D. C. 20  
years' experience  
Write for information.



## ADVERTISING THAT PAYS.

When I buy advertising, I want to feel assured that the paper in which I have space goes to the men whom I desire to reach, and further that the people to whom it goes have a good opinion of it. I place my advertising on that basis. Make first-class goods, let everybody know where the goods can be had, and then treat your customers white is the way to get business.

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"Doubtful goods are never advertised in reputable trade papers. Paste this in your hat."

"It's the character of the customers, not their number, that counts. Some eighty-acre farms produce more than an entire section of land."

### HAVE YOU

## RHEUMATISM?

Or do you know any friend or neighbor afflicted with any form of Rheumatism; if so, send his or her address on a Postal Card to the

PARISH CHEMICAL CO.,

Parish, N. Y.

Rheumatism has been conquered by them and they will prove it to you. It will cost but one cent to investigate this.

# FREE

Trial. Why suffer from the bad effects of the La Grippe, Lamé Back, Kidney and Liver disease, Rheumatism, Indigestion, Dyspepsia, any kind of weakness, or other diseases, when Electricity will cure you and keep you in health. (Headache relieved in one minute.) To prove this, I will send **DR. JUDD'S ELECTRIC BELT** to any one on trial, free. Prices, \$3, \$6, \$10, and \$15, if satisfied. Also, Electric Trusses and Box Batteries. Costs nothing to try them. Can be regulated to suit, and guaranteed to last for years. A Belt and Battery combined, and produces sufficient Electricity to shock. Free Medical advice. Write to-day. Give waist measure, price and full particulars.

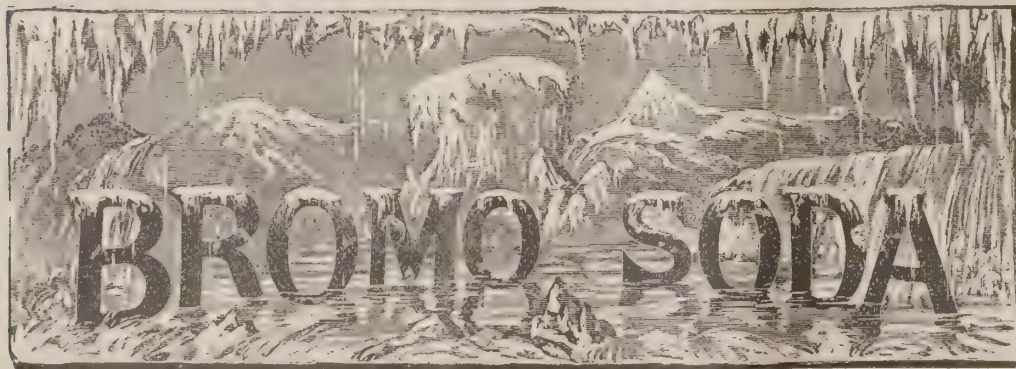
Agents Wanted.

Address **DR. JUDD, Detroit, Mich.**

FOR THE SPEEDY RELIEF OF

## NERVOUS HEADACHE AND BRAIN FATIGUE

**WARNER & CO.'S EFFERVESCENT**



Useful in Nervous Headache, Sleeplessness, Excessive Study, Over Brainwork, Nervous Debility, Mania, etc.

**DOSE.**—A heaping teaspoonful in half a glass of water, to be repeated once after an interval of thirty minutes, if necessary. Each teaspoonful contains 30 grs. Bromide Sodium and 1 gr. Caffein.

It is claimed by some prominent specialists in nervous diseases that the Sodium Salt is more acceptable to the stomach than the Bromide Potassium. An almost certain relief is given by the administration of this Effervescent Salt. It is also used with advantage in **INDIGESTION, DEPRESSION** following alcoholic and other excesses, as well as **NERVOUS HEADACHE**. It affords speedy relief for **MENTAL** and **PHYSICAL EXHAUSTION**.

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## One Dollar.

After Dec. 31st, 1892, the subscription price will be advanced to \$2 a year.

ADDRESS

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For five dollars a copy of the American Newspaper Directory for the current year (1500 pages) will be sent, carriage paid, to any address, and the purchase of the book carries with it a paid-in-advance subscription to **PRINTERS' INK** for one year.

## RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, **without the knife or risk.** Diseased eyes or lids can be cured by our **home treatment.** "We prove it." **Hundreds convinced.** Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.

## PATENTS

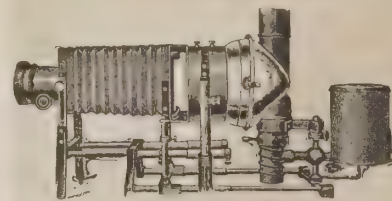
**GEORGE E. LEMON,**

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Counsellor at Law, Solicitor of American and Foreign Patents.

Opinions rendered as to the novelty and patentability of inventions and validity of patents. Rejected applications prosecuted. All business relating to patents promptly attended to.

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Manufacturers, Photographers and Slide Colorers. Catalogues free.

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THE AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable. Address

AMERICAN ANALYST,

19 Park Place, New York.



# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

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H. LASSING, M. D., Editor,

No. 19 Park Place, New York

FEBRUARY 1, 1893.

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### CHEMICAL FOOD.

A prominent medical man says he believes that "in time a chemical food will be invented or discovered upon which the human race will subsist. It has been demonstrated that a clearer and purer article of food can be made from chemicals than the average varieties now in use, and it is my opinion that a perfect food, such as milk is to an infant, will be produced at some time, and that all natural foods will be deemed superfluous."

Thus says an optimistic exchange. Alas for human frailty! A chemist's laboratory is a wonderful place, but nature's laboratory is more wonderful still. A man's laboratory, presided over by one who has been a faithful student, can accomplish many useful things, but falls just far enough short of nature not to be able to interfere with the great Creator's better and more beneficent chemistry. It is so in this case. If man could with his chemical food also furnish a chemical stomach and a chemical absorption system he

might be able perhaps to talk about chemical food. We are so far from any practical realization of such a scheme that it is Utopian to think much less speak about it.

### MORE COLUMBUS CRAZE FOLLY.

The Columbus Fair at Chicago needed advertising and so the Postmaster General of the United States was inveigled into the best contrived system of annoying the public which could be possibly conceived. During the administration of Mr. Wanamaker many laudable improvements have been made in the handling of our mails and none of them have met with more general approbation than that of reducing the size of the postage stamp some months ago. But when the Columbus craze struck our good Postmaster General he undid all of this good common sense work and introduced the most cumbersome, unwieldy and inconvenient stamp ever issued. Printed on flimsy paper, half gummed, these monstrosities refuse to stick, and plaster a letter all over with poorly executed caricatures. As if the fates all conspired to show up the utter baselessness of the ridiculous claims made for the Italian adventurer to being the discoverer of America, these stamps also contribute their share of anachronism. On one denomination Columbus is represented as sighting land, and on the other denomination as landing. In those days of slow lumbering caravels, there could not have been over twenty-four hours difference between the two events, yet according to these stamps Mr. Columbus when he discovered land was beardless and when he landed had a respectable six months growth of beard, the only respectable thing we have ever heard of about Christopher. There is only one reasonable solution, that is that the artist had studied history or read the AMERICAN ANALYST where he learned the truth about the discovery of America and so on one stamp pictured Leif Erick as the true discoverer of this land and in the other gave as good a sketch of his ideal of a pirate or freebooter as could be made from the various hypothetical descriptions of that mythical nonentity popularly supposed to be Christopher Columbus. Be that as it may, and comforting ourselves with the promise of the Postoffice Department that these monstrosities are only to be issued during this year, we respectfully suggest to Mr. Wanamaker that he ought to furnish the neat, handsome and handy old-fashioned stamps for the use of people who have not gone Columbus mad.

### HOUSEHOLD.

#### KITCHEN TABLES.

Housekeepers who have never had a tin-covered table for kitchen use are still unacquainted with one of the most valuable articles of domestic economy. An ordinary kitchen table takes kindly to the metal cover. Fit a sheet of tin on the table and perforate the edges for tacking. The

tin should cover the thickness of the board top, that it may be tacked on the underside of the table. A table so covered needs no scrubbing, is impervious to hot kettles, sheds grease as the proverbial duck's back does water, and, in fact, cheers the heart of the kitchenmaid more than anything on earth, except her wages and her "company." The woman who does her own work should not let another dawn find her without one. Said a wise family man: "Anything which simplifies the domestic labor of the household should be regarded as of distinct benefit to mankind," and he was speaking of a tin-covered table, upon whose virtues his wife was dilating. A fair and cheap substitute is found by covering tables with the marbled cloth sold sometimes for washstands and children's bibs. It was Mephistopheles himself who designed kitchen tables out of soft pine boards. With their absorbent and spreading qualities, a tiny drop of grease is quickly converted into an unsightly blotch, and a hot handle or kettle sears its indelible mark across their surface. *Times.*

### BLACKING STOVES.

Every good housekeeper dislikes to see a grimy stove, yet often dreads equally the grimy hand acquired in the process of blacking. A pair of thick gloves is, of course, a necessary part of the outfit of any woman who does kitchen work, and yet desires, as she should, to keep her hands dainty. As a rule, far too much blacking is used on stoves. If too much blacking is used, it will not be rubbed into the surface of the stoves as it should be, but remain as a fine dust to be afterwards blown about and cause a generally grimy appearance, so often seen in uncared-for kitchens. A fresh coat of black should not be applied oftener than once a month, when the flues should also be cleaned out and the interior of the stove thoroughly brushed out. Before putting on new blacking, the old blacking should be washed off. The new coat must now be applied and the stove thoroughly polished.

The edges of the stove, if they are of polished iron, should not be blacked, but cleaned like a steel knife with brick-dust. The nickel knobs and other nickel parts of the stove must be rubbed bright with a chamois skin or old shrunken flannel. An ordinary paint and whiting brush is one of the best things with which to apply blacking to a stove. A stiff brush, such as is used for this purpose, is the best brush for polishing. During the month, polish the stove with the polishing-brush each morning, just after kindling the fire. Keep an old cloth always on hand in cooking, to rub off any grease spot as soon as it occurs. If the spots are obstinate, a few drops of kerosene oil put on the stove-cloth will remove them. The ground edges and nickel work of the stove should be rubbed off at least once a week, besides the monthly cleaning when the stove is blacked — *London Housewife.*

A hive of 5,000 bees will produce about 50 lbs. of honey annually.



## ANALYSIS OF WASHING POWDERS.

BY W. J. KINNEY, W. H. WENGER AND PROFESSOR  
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The various washing powders used as substitutes for soap present a conspicuous example of substances in general use which are usually employed with little understanding of their nature or composition.

The four samples selected are of such powders for washing clothes, etc., largely sold in Virginia and a knowledge of their composition will prove of interest to many. Analysis afforded the following results:

	A	B	C	D
Sodium carbonate	45.2	26.9	49.2	46.6
Fatty acids	26.4	44.0	25.6	25.7
Combined soda	3.1	3.4	3.5	2.6
Fine sand		16.3		
Water	23.7	8.8	19.1	24.9
	98.4	99.4	97.4	99.8

A portion of this water is necessarily in the soap, and the remainder is with the sodium carbonate, which has in each case been partially dried. The soaps used do not contain rosin. Not a trace of borax was present.

We may therefore describe these substances as generally composed of a mixture of soap and dried washing soda, both powdered.

While a small amount of such powders may properly be employed, in conjunction with soap, to remove the "hardness" of the water when washing textile fabrics, yet the substitution of any such powders for soap must result in a gradual corrosion of cotton, linen or woolen goods.

Borax might be employed in place of soda in the above preparations with great advantage (to all except the manufacturer), since it has no corrosive action upon such fabrics, and, while it removes all hardness from the water, is also an excellent detergent.—*American Chemical Journal*.

## HOLDARMA.

## A NOVEL SWEDISH DISH.

One pound of round steak, one-half pound of pork steak (chopped fine), one onion (chopped fine) one white cabbage (boiled in boiling salted water ten or fifteen minutes, or until tender). After you have chopped the beef and pork steak, also the onion, very fine, add one egg (well beaten) to the mixture, season well with salt and pepper, add about one-half pint of milk and one-half cup full of cracker crumbs; mix well. Take a tablespoonful of the mixture and brown it in butter to see if it is of the right consistency—if it holds its shape it is right. Take the cabbage from the stove; drain it; take one cabbage leaf, put a tablespoonful of the meat mixture into the leaf and tie it up; then take another leaf, put another tablespoonful of the mixture into the leaf and tie up; keep doing this until all the cabbage leaves and meat are used up. Take a very large spoonful of butter and put it in your meat-pan on top of the stove; when the butter is melted, put in the cabbage leaves which you have tied into the pan, brown on one side, then turn and brown on the other; when all are brown, add a little hot water, and cook slowly on top of the stove for one and a half or two hours, adding more water as it boils away. When ready to serve, dissolve one heaping tablespoonful of flour in the same quantity of milk, put it into the meat-pan, stir until smooth, then add one cupful of cream or milk.

Maud—Why don't Milly light the gas when she knows that Mr. Oldswain is coming?

Gertrude—Oh, he's an old flame.

## SOME ENGLISH RECEIPTS.

**BLACK BEAN SOUP.**—Soak one pint of black beans over night; in the morning drain and cover freely with cold water, add one teaspoonful of soda, and boil fifteen minutes. Change the water and boil again ten minutes; drain, and add one quart of cold water and boil until the beans are soft, adding more water as this boils away. Rub through a sieve. Cook together one tablespoonful of butter and one tablespoonful of flour; to this add the hot bean liquor, one tablespoonful of salt, one-half teaspoonful of pepper, and a few grains of cayenne. Simmer ten minutes; then add one pint of hot cream or milk and four hard-boiled eggs, cut fine. The beans should simmer in the quart of water all the forenoon if the soup is served at noon. The flour is used to bind the soup together, as the beans thicken it enough; but if the flour was not added, the beans would settle to the bottom of the tureen. Stir the soup all the time while adding the butter and flour, to prevent its cooking in tiny balls. When ready to serve, the soup is a chocolate color. It is delicious in flavoring and very nourishing.

**LEMON PUDDING.**—Half a pound of bread crumbs, a quarter of a pound of flour, quarter of a pound of finely chopped suet, quarter of a pound of loaf sugar, two eggs, the juice and rind of one lemon. Put the crumbs in a mixing basin, sift in the flour, pound the sugar very finely, sift that in also. Add the juice and rind of the lemon. Break the eggs, separate the yolks from the whites, beat the yolks with a fork, and stir it into the rest of the ingredients, mixing well. Beat the whites to a stiff froth last of all, and mix them in, stirring all the while. Pour the mixture into a greased basin, cover with greased paper, and stand it in a saucepan of boiling water, taking care not to let the water come more than half way up the basin; boil for three hours.

**MILK PUDDING.**—Two ounces of rice, one ounce of sugar, a little nutmeg, one pint of milk. Well wash the rice in two or three waters. If you use skim milk one teaspoonful of very finely chopped suet should be added to give it the necessary portion of fat, but new milk is preferable. If you have no scales measure out two tablespoonfuls of rice, for that is equivalent to two ounces. Grease a pie-dish, put in the rice, sugar and nutmeg, pour the cold milk upon it, and bake in a slow oven for two hours.

**APPLES IN BATTER.**—Take eight large cooking apples, peel and core them, but do not make a hole right through them. Put a piece of butter the size of a small nut, and a teaspoonful of brown sugar in each one. Arrange them in a greased pie-dish. Make a batter with four ounces of flour, a pinch of salt, one egg and a half a pint of milk, mix well together, pour round the apples, but do not hide them, and bake till light brown.

**EGYPTIAN SOUP.**—Half a pound of lentils, one and a half ounces of dripping, one carrot, three small onions or one large, a small bunch of sweet herbs, one tablespoonful of flour, four cloves, one teaspoonful of salt, one teaspoonful of pepper, and two quarts of water. Lentils are a leguminous vegetable, and were originally brought from Egypt, but are now grown largely in Europe. They are sold at twopence per pound. Well wash the lentils; they are very dirty things and require washing in several waters. Put on two quarts of cold water in a saucepan, then put in the lentils. As they contain no fat a small quantity is necessary, therefore the dripping is required. Let the lentils come to the boil. Scrape the carrot (never pare them as the most nutritious part lies near the skin), cut it into small dice, slice up the

onions, and when the lentils boil, drop in the vegetables and herbs, and let all boil for an hour. Skim the soup very carefully. Lentil soup is almost the only one that requires no stock and is, therefore, very cheap. If the water boils away add more boiling water to make up deficiency. When the lentils are soft, pour through a sieve into a basin, and cover it over at the side of the stove to keep warm. Now take your dripping, put it into the saucepan to melt, and thicken it with flour, then pour back the soup into the saucepan gradually, stirring all the time, or else the flour will settle and become lumpy. Add the pepper and salt and let it all boil up again. Skim very carefully and serve up in a hot tureen. This quantity would be enough for eight people.

## FISH.

**BAKED BLUE FISH.**—Clean the fish, wiping it dry. Prepare a stuffing of grated bread crumbs, seasoned with a little chopped onion, salt and pepper, and a good lump of butter. The crumbs should be moistened with a little milk, care being taken to use only enough to hold the crumbs together. Stuff the fish, sewing it up well, and place on a meat rack in the baking pan to bake, adding a little water to the pan, and placing one or two strips of fat pork on the top of the fish. When done, lay on a platter, and pour around it either of the following sauces:

**CREAM SAUCE FOR FISH.**—Two teacupfuls milk, heated to boiling. Stir in one tablespoonful of corn starch, wet with a little of the milk, and when it thickens season with salt, pepper, and a good tablespoonful of butter.

**TOMATO SAUCE FOR BAKED FISH.**—On the fish baking lay one or two tomatoes, and fasten them to the fish with toothpicks, or small skewers, run through the tomato and into the fish. When the fish is done, remove to the platter, adding one-half teacupful of tomato to the gravy in the pan, and setting on the stove to cook. Thicken with a little flour stirred thin with water, and season with salt and pepper.

**CODFISH BALLS** (excellent).—Boil together one quart of sliced raw potatoes, and one large cup of fish. Mash when the potatoes are tender, and add two tablespoonfuls of cream or milk, a piece of butter the size of an egg, and one egg well beaten. Beat together with a spoon, and fry like doughnuts or pancakes. Do not use the hands and do not fear it is too thin.

**CUSK-A-LA-CREME.**—Take one quart of pieces of cold fish, either boiled or baked. Put one quart of milk, with one blade of mace, a sprig of parsley, and a bay leaf, into the milk boiler to boil. Stir together one tablespoonful of corn starch and one ounce of butter. Remove the bay leaf mace and parsley from the milk, and stir in the corn starch and butter. Add also to the milk the beaten yolks of two eggs; salt and pepper to taste. Put a layer of fish in a baking dish, then a layer of the sauce, and so continue until all is used, having the sauce on top. Sprinkle over the top with bread crumbs, and put in the oven to brown. Serve in the baking dish.

**CLAM FRITTERS.**—Put on the fire two quarts of long or round clams, well washed, and when they commence to open extract the meats, straining the juice, and to two cups of the juice use three eggs, one pint of clam meat and a pinch of salt. Heaping dessertspoon of baking powder. Flour to make a stiff batter. Fry as you would doughnuts. If you cannot get so much juice, use enough milk to make up the deficiency.

**OYSTER CROQUETTES.**—One-half pint raw oy-



sters, one-half pint of chopped cooked veal, one heaping tablespoonful of butter melted, three tablespoonfuls cracked crumbs, the yolks of two eggs, one tablespoonful of onion juice. Chop the oysters and veal very fine, soak the crumbs in the oyster liquor, mix all together, and shape into balls. Dip in egg, roll in cracker crumbs, and fry.

**LITTLE PIGS IN BLANKETS.**—Season large oysters with salt and pepper. Cut fat pork or bacon into thin slices. Wrap an oyster in each slice, and fasten with a little skewer; toothpicks are the best. Cook just long enough in a frying pan to crisp the bacon—about two minutes. Place on slices of toast that have been cut into small pieces, and serve. Do not remove the skewers.

**FISH MAYONNAISE.**—This may be made of any remains of cold fish, but is best made of some kind of boiled fish that will flake nicely, such as salmon, cod or haddock. Flake the fish, not into too small pieces, and mix thoroughly with the following salad dressing: Take two-thirds cup of potato, mashed while hot as smoothly as possible, and then allow to cool. Mix with the cooled potato an egg well beaten, and add very slowly, working it in carefully, two or three tablespoonfuls of salad oil, a tablespoonful of mixed mustard, and a tablespoonful of vinegar; salt to taste. May be served plain, or the salad may be put on a bed of lettuce leaves.

**EGG PLANT.**—Slice the plant half an inch thick, paring the rind off and laying the pieces in salted water; leave them there one hour; wipe each slice; dip in beaten egg, then in cracker crumbs and fry in plenty of fat. Season with salt and pepper.

**CABBAGE IN MILK.**—Chop cabbage fine and boil tender in water; drain off the water, and nearly cover with milk, seasoning with salt, pepper and butter; let come to a boil and serve.

**BAKED MACARONI.**—Break into inch pieces and stew twenty minutes in salted water; drain and put a layer in the bottom of a baking dish; upon this grate some mild cheese and scatter over it some bits of butter; spread upon the cheese more macaroni and fill the dish in this order, having the macaroni at the top buttered well without the cheese; add a few spoonfuls of milk and a little salt; bake covered half an hour, then brown nicely and serve in the baking dish.

**ASPARAGUS ON TOAST.**—Cut off the white ends, and tie all that is green together; boil in salted water, and have ready when done bread nicely toasted; carefully lift out the asparagus with the help of a fork at each end where tied; lay on the toast; remove the strings, butter well, and add salt and pepper.

**BAKED TOMATOES.**—Do not peel the tomatoes; cut a thin slice from the stem end, and carefully take out the pulp and seeds, chopping the insides finely with some bread crumbs; salt, pepper, butter; fill the tomatoes with this and put on the part taken off; bake three-quarters of an hour. If there is any stuffing left put it between the tomatoes.

**WAYS OF EATING.**—Did you ever watch the myriad ways of eating? There is the aggressive eater, who bites his bread as though he owed it a grudge, and drinks his coffee with eyes that fairly glare over the brim of his cup with unappeasable wrath; the timid eater, who nips his food apologetically; the preoccupied eater, who doesn't seem to know salt from sugar; the hungry eater, who eats as men have championed a lost cause. I never watch a company of eaters but I

feel that the line of demarcation between the human family and the brute creation grows very faint and dim as it approaches this common center. I have often wondered if the race, as it advances, will not one day escape the bondage of the appetite. When science shall condense a whole beef into a lozenge and the nutriment of a week's baking into a pastil, we shall lose much of our present kinship with the brutes that perish.

**KEEP YOUR HEAD CLEAN.**—Keeping the head perfectly clean is a great aid to health. A distinguished physician, who has spent much of his time at quarantine, said that a person whose head was thoroughly washed every day rarely ever took contagious diseases, but when the hair was allowed to become dirty and matted it was hardly possible to escape infection. Many persons find speedy relief for nervous headache by washing the head thoroughly in weak soda water. We have known cases almost wholly cured in ten minutes by this simple remedy. A friend finds it the greatest relief in cases of "rose cold," the cold symptoms entirely leaving the eyes after the first washing of the hair. The head should be thoroughly dried afterwards, and draughts of air should be avoided for a little while.

**BED AND TABLE LINEN.**—Sheets, pillow-cases, table-cloths and napkins should not be hemmed until they have first been shrunken; but before the shrinking process each one should be made into its proper length. If this is done, they will always fold evenly when ironed, which is not the case if made up without shrinking, or if shrunken in the piece, and then made into proper lengths. Sheets and pillow-cases should be torn by a thread; table-cloths and napkins should be cut by a thread.

**MOLES.**—To rid one's self of a mole, try to remove it by tying around it white silk thread. It is claimed that the mole will drop off in a few days.

**JUST LIKE A MAN.**—It takes a business man to describe a costume to his wife. A busy son of commerce, after seeing a very taking dress on a very taking shopper recently, informed the partner of his joys that "it was fine. The dress was made of some kind of cloth, with some sort of trimming. It was sorter lilac or shrimp pink in color, and had for a waist some kind of a basque that was indescribable. She wore one of those hats you sometimes see on women, and altogether gave an effect that I wish you could have seen."

#### TO BOIL GREEN VEGETABLES.

Cabbage, or any other green vegetable, should be placed in cold water, and well sprinkled with salt. A large cabbage should have the hard stalks cut right away, as they are very seldom eaten and take a long time to cook. Look over the greens well in case there should be any insects hidden in the leaves. Rinse in clean cold water again, and then plunge them into a saucepan of boiling water. Put in two tea-spoons full of salt, and one of brown sugar. The sugar softens the water and helps to keep the vegetables a brighter green. If soda is used it softens the water and cleans the saucepan, bringing any dirt there may be to cling to the vegetables, therefore, sugar is by far the best to use. To take off the unpleasant smell which rises from the green water, boil a small piece of bread tied up in a muslin rag with the vegetables, and no unpleasant odor can be detected. Regulate the time of boiling vegetables by their age, old vegetables taking a longer time than young ones. They also take a longer time in dry seasons than in wet. When the vegetables are done, strain away the water through a colan-

der, then press the greens with a plate to squeeze them as dry as possible, and serve up on a hot dish. Cut them across several times so as to help them better at the table. All green water should be thrown out on the earth, never throw down a drain or sink.

#### WHAT SHALL I BUY?

AN ENGLISH VIEW ON GOING TO MARKET.

With what a helpless feeling and how great a heart-sinking does many a young housekeeper utter the exclamation, "What shall I buy?" Who can describe her bewilderment when she arrives at a butcher's shop, her only experience hitherto with joints being the little that can be gained at a dinner table; equally bewildered does she feel at the fishmonger's and the poulterer's, to say nothing of the greengrocer's and the cheesemonger's. She may feel more at home at the draper's, her shopping up to now having been confined to visiting such establishments; but as to marketing in the proper sense of the word, viz., buying of the daily food, she knows nothing about that and is at a perfect loss. Poor creature! We cannot but feel sorry for her, launched upon a sea of difficulties just perhaps when everything else looks *couleur de rose*, neither can we help a flash of indignation against those who have had the ordering of her life up to the present time, that they should have neglected such an important side of her training. If she be a young woman of sense she will at once set to work to remedy this, and not drift along buying her knowledge dearly. It may in some cases save trouble to order goods when the tradesmen call, but a wise woman, knowing that she ought to make the most of the bread-winner's earnings, will see that it is her duty to do her own marketing; such thrifty housewives will not only be able to make their money go farther, but they ensure greater excellence and variety in their purchases.

Some preliminary knowledge is absolutely necessary. To begin at what may appear a trivial matter, acquire the ability to reckon quickly, it will not appear such a trivial matter after a visit to a London butcher's, where it is somewhat startling to find that chops can be cut off, popped into a scale, the price called out, and the man serving another customer before you can look round to see what he is doing. To have to stand five minutes longer reckoning what two pounds, six ounces of mutton, at eleven pence a pound, comes to, makes one look small, to say the least of it. To rapid calculation must be added a correct notion of weights and measures, and such an acquaintance with the appearance of a weight or a measure that you can tell at a glance whether you are getting your correct quantity. A most important point is to be "well up" as to what is in season; to ask for strawberries at Christmas or partridges in June would naturally earn a look from the shopkeeper suggestive of an asylum. And what about adulterations? Fortunately for us in the present day, the law deals severely with this kind of thing, and there is not so much danger now of materials injurious to health being used; we have to suffer more from the introduction of substances lower in price, which betokens an article inferior in quality. Black and white pepper is sometimes mixed with long pepper, which is much cheaper; mustard with flour and turmeric; pure olive oil with cottonseed oil, and so on.

No doubt large stores have some advantages over small shops; it simplifies the matter so much to only have to pass from one department to another, and it is not to be wondered at that they are popular in London and other large places; but



is it not a serious question of right and wrong for well-to-do country people to send to these large stores for the bulk of their provisions, paying ready money for them, while only helping (?) to support local trade by purchasing occasional dribblets, and (which is adding insult to injury) requiring such dribblets to be booked for three, six and sometimes twelve months, and expecting that the order, however small, shall be sent, no matter how far the customer lives from the shop?

This suggests another point, viz., Cash versus Credit. There the stores are again on the winning side. It is a policy of "no cash no goods" with them, a policy that some shopkeepers are wise enough to follow; others clearly state that they charge a percentage of interest for credit, and in such cases running long bills is certainly incompatible with economy, as far as concerns the housekeeper. Out and out the wisest course for a housewife, especially a young beginner, is to select a shop or shops where good things are sold, and pay ready money, and it certainly will not decrease the consideration in which she is held if she takes a small bag or basket with her in which to carry home small packages.

Experience is the best teacher; by experience one gets knowledge, and by knowledge the power to manage to the best advantage. Who becomes the best judge of meat? Why, the woman who goes to market to see it cut, and who observes carefully the quality, the quantity of bone and gristle or other waste, and learns just what to buy to suit the needs of those for whom she has to cater.

It is open to discussion whether it is economical to buy in bulk, i. e., large quantities at a time. There is, of course, an advantage in buying a large quantity, when you can buy such a quantity cheaper in proportion than a smaller quantity, and when it reaches home it is not used lavishly. Sometimes, when there is a nice-sized chest of tea in the house, it may be a temptation to put two spoonful into the teapot where one ought to do. It certainly is not economical to buy large quantities of such articles as deteriorate in keeping.

It is a good plan to make a list of such articles and the quantities you find convenient to store, and to keep this list hanging inside the door of the store closet; if you are orderly in your arrangements it will then only need a glance to show you where you are running short, and such a saving in time is no small matter to a busy housewife. For this reason, wide-mouthed glass jars are best for storage. Another small space of time should be spent in looking over the contents of the larder. A third must be spent in looking forward, using a little foresight in determining what shall be purchased. In arranging a bill of fare, this is specially necessary; good managers will look quite a week ahead, and such foresight saves a large amount of worry and some journeys.

What ought I to pay is not the least consideration. It is a somewhat difficult one, for prices fluctuate from numerous causes, and they also vary in different localities. Good meat may appear dear, but it is false economy to buy it poor and cheap. Bread has a fixed price and rises and falls with the market price of flour. A careful buyer will study the rise and fall of the markets, so as to be ready to secure the benefit of a fall in the market price. One rule is a tolerably safe one, that a good article goes farther and lasts longer than an inferior one, and therefore the extra price in the first place is worth giving. Come to a clear understanding as to the sum you can spend upon housekeeping, and make a compact with yourself never to be persuaded to exceed it.

Referring again to the subject of weights and

measures—excepting drugs, which are sold by apothecaries' weight—we buy almost everything by avoirdupois weight; there are, however, special weights for some articles.

In conclusion, a few words upon food in season. Beef and mutton are in season all the year round, lamb in the early part of the year, pork in the colder months. There is a good assortment of fish all the year round, although not such a variety some months as others. Poultry of one kind or another can generally be got, but game is not to be had in May, June and July. Vegetables and fruit have their seasons also, but we are never without some of one kind or another. The market or shop may not be fully stocked with every description of seasonable food, but as a rule there is a choice, and the wishes of a good customer are seldom ignored by a shopkeeper when buying in his stores.

So much for a few thoughts on going to market, and others may occur to the reader.—*London Housekeeper*.

#### A PUMPKIN PIE.

A properly made and baked pumpkin pie is a rarity. The trouble begins with preparing the pumpkin, which is usually boiled up quickly in abundance of water in such a manner as to take all flavor from it. There is but one way to cook a pumpkin properly. Cut it into long strips, remove the seeds and inside pulp, and pare these strips. Put them into a porcelain-lined iron saucepan, if you have one, or any thick saucepan, in about two inches' depth of boiling water. A four-quart saucepan filled with sliced pumpkin will require less than a quart of water. Cover the saucepan, and the moment the water begins to boil set it back where its contents will merely simmer, being careful that it is covered all the time and that the water does not boil away fast enough to require that more should be added. After the pumpkin has slowly cooked in this steam for six hours, it will be soft and tender; all the water will be absorbed, and it will be an entirely different vegetable from the same thing boiled half an hour or so in abundance of water.

After cooking pumpkin properly it is not necessary to wring it in a cloth, thus extracting all its flavor and leaving a dry pulp behind. It should be simply mashed and strained through the colander. Measure out two cups full of this strained pumpkin, add four cups full of sweet milk, half a tea-spoon full of salt, two tea-spoons full of ginger, one of mace, an even tea-spoon full of cinnamon and a little nutmeg. Beat up five eggs with about three-quarters of a cup full of sugar and beat them into the other ingredients. Add, last of all, a cup full of cream, and taste the custard to see if it is sweet enough. Line rather deep earthen pie plates with plain paste, brushing it over with the white of an egg. Put around each piece a rim of puff paste, if you wish, and fill it with the prepared pumpkin. Bake the pies rather slowly till solid in the centre in an oven well heated at the bottom.—*Exchange*.

The best way to bake squash is to cover the bottom of the pan with a little water; cut the squash in half and lay one half, flat side down, in the pan.

"So friend Bushler was on top of Mt. Blanc?"

"Not at all."

"But he said so."

"True. Two months ago when he returned from Switzerland he said he had been at the foot of Mt. Blanc. Since then he has gradually lied himself to the top."

## MEDICAL.

**TO ARREST NASAL HEMORRHAGE.**—In persistent hemorrhage from the nasal cavity, firmly grasp the nose with the finger and thumb, so as to completely prevent any air from passing through the cavity in the act of breathing. This simple means if persistently tried, will in many cases arrest the bleeding. The hemorrhage persists because the clot which forms at the rupture in the blood vessel is displaced by the air being drawn forcibly through the cavity in attempt of the patient to clear the nostrils. If this air is prevented from passing the cavity, the clot consolidates in position and the hemorrhage is checked.—*Edinburgh Medical Journal*.

**PAROXYSMS OF COUGHING.**—In severe paroxysms of coughing, either from coughs, colds or consumption, one or two tablespoonfuls of pure glycerine, in either milk, or hot, rich cream, will, it is said, afford almost instant relief.

**LIME IN THE EYE.**—Lime in the eye can be rendered less irritating and destructive by washing the eyes out with syrup, which forms the saccharate of lime. Of course this should be washed out with clean water. For pepper or tobacco, wash the eyes with milk.

**BRUISES.**—Hot water is better than cold to apply to a bruise or sprain. It will relieve the pain and swelling sooner than other applications.

**CHOKING.**—If a person is choked or strangled, break an egg as quickly as possible and give the white—do not beat it—and it will almost certainly dislodge the obstruction, whatever it may be, unless it is lodged in the windpipe.

**BUNIONS.**—The proper treatment for a bunion should commence with a warm bran poultice, continued for one or two hours, so as to soften the cuticle of the part, then apply a piece of lint wetted in extract of lead, cold, around the toe, moistening the lint from time to time with the extract. In a few hours the inflammation will have subsided, and if a boot sufficiently large to avoid pressure is worn, the bunion will be cured.

#### CHOLERA BACILLI.

##### INTERESTING FACTS ABOUT THEM.

The German savant is eminently practical when it comes to beer, and as soon as the cholera assumed noteworthy proportions in Europe, he set about determining the duration of life of the bacillus in his—the savant's—pet beverage. He found, according to the *Pharmaceutische Zeitung*, that the bacillus does not live beyond three hours in Pilsener, Patzenhofer, or Munich beer; two hours in Berlin white beer; five minutes in white and fifteen in red wine, and twenty minutes in cider. Two hours in cold coffee decoction (6 per cent) was too much for the bacillus; but it needed five hours of a rye-and-chicory imitation to kill it. In milk which had been boiled for an hour the bacilli lived for nine days, but the tenth brought them to the end of their career. Cold tea was much the same—i. e., a 1 per cent brew, but a 2 per cent tea cleared the field in four days, 3 per cent in one day, and 4 per cent in an hour. The bacilli were most partial to cocoa; they did not appear to die off in that at all.—*American Druggist*.

**NATIONAL VS. STATE QUARANTINE.**—If ocean ports kept all the immigration coming to them in their own bounds, they might have a right to object to federal interference with State regulations. But national gates ought to have national keepers.



WHAT IS IT THAT PULLS A PERSON DOWN?—It is not natural and reasonable intellectual work that injures the brain, but emotional excitement. Most men can stand the severest thought and study of which their brains are capable, and be none the worse for it, for neither thought nor study interferes with the recuperative influence of sleep. It is ambition, anxiety and disappointment, the hopes and fears, the loves and hates of our lives that wear out our nervous system and endanger the balance of the brain. A man can spend more of his strength in five minutes of unnatural mental excitement than in one day of calm, steady brain work.—*Herald of Health*.

TAKES HIS OWN MEDICINE.—“The physician,” says a ribald contemporary, “is the man who prescribes change, and then takes all you have.”

ARE WARTS CONTAGIOUS?—A recent writer in a contemporary relates that after using his thumb to remove warts which had previously been softened, three warts developed upon his thumb, which confirmed his belief, based upon facts which had previously come to his knowledge, that warts are contagious. The most thorough study respecting the origin of warts, shows that they are due to certain species of microbes which invade the tissues and modify their development.

## HYGIENIC.

### LADIES ON BICYCLES.

#### BISHOP COXE'S UNCOMPLIMENTARY VIEWS.

Bishop Coxe, addressing the young lady graduates in a Chicago school, said he hoped he might never see any of them astride a bicycle, for it reminded him of the witches of old riding their broomsticks. All these crazes, such as roller-skating, the sunflower mania, Nellie Blyism (that is, a desire to wear men's caps and boots and travel all over the country alone), all slang expressions, etc., are very short lived. Like the shoals of sand, they are here one day and away the next and it is generally conceded that a person is much better without adopting them. These particular fads are, as a rule, not taken up by people with a proper sense of decorum; and, although we have the utmost admiration for the woman who can do something clever without making herself too conspicuous, we have yet to meet the heroine of a career who is not brazen and tiresome—it is not her fault, but the result of contamination. No one can elbow the street crowd without losing some of the sweetness we prize in woman; the gain that comes from the outer world—the shop, the rostrum and the public procession—is more than outweighed by loss of modesty, gentleness, faith and womanly dignity.

Some say they ride astride the bicycle, others say they do not. This question would certainly be difficult to decide without a close investigation which would be inconvenient—to say the least. We have already noticed that bicycle riding is injurious to young women, having a tendency to act as the sewing machine. The excessive action of the legs keeps the pelvic organs in a constant state of congestion, and must certainly produce certain displacements and various kinds of weakness.

### OBESITY CURE.

#### THE FUNNY EXPERIENCES OF CELIA LOGAN.

“How to Reduce Your Weight,” is the title of a little book by Celia Logan in which she gives her experiences with several preparations for reducing the weight of fat people. Here is one:

My eye was caught by the display in the windows of a certain drug store. This display con-

sisted of the photograph of an enormously fat man as he appeared before taking the Marienbad pill for reduction of fat; another photograph showed him quite emaciated after taking it. More convincing still were the photographs of ex-Queen Isabella, representing her as almost slender after Marienbading. Inquiry brought forth a small pamphlet compiled by the official physician of the Marienbad Springs, from the sulphated sodic salts of which the pill is composed. This doctor claims that the ex-Queen of Spain was under his care in Paris for eight weeks, and during that time lost seventy pounds in weight and decreased seven inches around the waist. This alleged reduction of a well-known immensely stout woman inspired me with hope, and the desire to try again, just once more, to rid myself of the corpulence which was now not only burdensome to carry, but was seriously affecting my health.

Upon the druggist's assurance that the pills were harmless, I bought seven boxes of them, price \$2.25 a box, containing fifty pills. Success was guaranteed, provided the directions were followed and the diet adhered to. I adhered to everything.

[Here Miss Logan gives a Dietary Table which accompanied her fourteen dollars and seventy-five cents worth of pills, but which need not be reproduced.]

The result of my first week's dosing was hardly so marked as in that of Isabella's case, as I lost but one ounce. The second week I lost one pound, and began to take heart of grace. The third week that pound came back, and for the balance of the time I was Marienbading that pound and the pill kept playing battledoor and shuttlecock. Back it came and went, until at last the pound won, bringing with it—to emphasize its triumph, as it were—three more pounds.

I had taken three hundred and fifty Marienbad reduction pills and had gained three pounds. “Now,” I said to myself, “when next I am lured into imitating any ex-Queen, fat or lean, I will buy an article of home manufacture.” And with that I nailed my colors to the mast. They bore this strange device:

“Eternal starvation is the only price of leanness.”—*Exchange*.

### DISINFECTIONS.

#### CONTRIBUTIONS TO THE STUDY OF DISINFECTION.

[Concluded.]

A large number of experiments were made with a view to determining the number of micro-organisms present on the walls of a room. For this purpose a small sterilized bit of sponge cut in the shape of a cube (of about half inch inside) was used to rub down a measured portion (about four square inches) of the wall. The sponge was afterward placed in a tube containing sterile melted gelatine and rotated gently so as to disengage all the organisms on its surface. The gelatine was then allowed to congeal on the sides of the tube, and after suitable incubation the colonies made their appearance, and were estimated in due course. It was found that the numbers present on the walls and ceiling respectively varied considerably. Near the floor the number was much greater than on the middle of the wall, while here again they were more abundant than on the ceiling. For example, on one of the walls at a distance of rather more than an inch from the ground, as many as 2,871 microbes were found, while on the ceiling over a similar area only eighty-five were discovered. It was also noticed that those portions of the wall or ceiling

which were exposed to currents of air from either the window or door exhibited generally a smaller number of bacteria than did places which were shielded from such draughts. Prof. Maschek further found that one rubbing was wholly insufficient to remove all the organisms from a given surface, and it was only after the process had been repeated five times that all bacterial life could be banished with certainty. Although the figures thus obtained are of interest by way of comparison, yet it is difficult to believe that they represent the *actual* numbers present. The accuracy of this method, originally devised by Esmarch, rests on the assumption that on placing the sponge in the tube of melted gelatine and rotating it gently (for if this were done violently the gelatine would froth, and the surface become covered with small bubbles, which would greatly interfere later with the counting of the colonies) all the organisms attached to the surface of the sponge would be removed. Now the sponge being left in the tube must necessarily obscure part of the gelatine surface; moreover, the interstices becoming soaked with gelatine, colonies would certainly develop within the sponge itself and escape detection, while it is quite inconceivable that gentle rotation would suffice to detach even all those organisms which are adherent even to the surface of the sponge.

Wall surfaces deprived of micro-organisms in the manner described above were subsequently sprayed with distilled water infected with different pathogenic bacteria, and after sufficient time had elapsed for these surfaces to dry, the effect of various disinfectants was tried. Numerous investigations are also recorded of the use of creolin, carbolic acid, and mixture of the latter with solutions of corrosive sublimate. The effect of exposure to high temperatures, in apparatus specially constructed for the purpose, has also been tried, while the disinfection of sewage matters with lime is also carefully considered, and a large number of experiments recorded with the typhoid and cholera organisms.

The following interesting account is given as an illustration of the success which can be achieved in disinfection on a large scale. An epidemic of diphtheria broke out in a small village in Germany and proved particularly fatal among the children; indeed so alarming was its progress that the burgomaster was led to suggest the disinfection of the whole village. A public meeting was held and the inhabitants were instructed as to the nature of the epidemic, and the possibility of checking it by the combined action of every household. Public funds were devoted to the purchase and distribution of the requisite disinfectants, and during three days the whole place is described as smelling of carbolic, while in all directions windows and doors were to be seen wide open, a very unusual sight in the country, and more especially in the month of February, when this occurred. The work of disinfection was carried on most systematically. Every article which could not be either washed or baked was treated with a 5 per cent solution of carbolic acid. In short, no efforts were spared to thoroughly disinfect everything, and the result was that, although the epidemic before the commencement of this disinfecting crusade was steadily gaining ground, it suddenly stopped. This must be considered as a tribute to the sagacity and energy of the inhabitants; for, as Prof. Maschek points out, experience teaches us to expect a gradual decline, due to the possible weakening of the virus, so that toward the end of an epidemic the number of bad cases are lessened and recoveries are more frequent.

In conclusion, the words of M. Duclaux may be



appropriately quoted: "Les études sur les antiseptiques n'ont gagné que de s'encombrer de résultats qui se contredisent les uns les autres, et entre lesquels on ne peut faire un choix, précisément parcequ'ils ont été souvent obtenus en dehors des conditions d'une étude précise. Il faut donc abandonner cette méthode, scruter avec de plus en plus de soin la phénomène, faire de la science, en un mot." This "faire de la science" is precisely the spirit in which Prof. Maschek has carried out his experiments; the immense care with which they have been conducted, the ungrudging labor bestowed upon them, should render his results a most valuable contribution to the subject of disinfection. It is only to be regretted that they are not published in a form in which they would be more likely to become known and appreciated.—*Nature*.

### SPRAYED FRUIT.

HYGIENIC EFFECTS OF SPRAYING FRUITS FOR INSECT PESTS AND FUNGUS DISEASES.

A case of fatal poisoning from such a use of the arsenical compounds, Paris green and London purple, has never been substantiated. The true danger lies in having them in bulk about the farm.

Their use against the Colorado potato beetle was at first much opposed on account of supposed danger. Recently the sale of American apples in England has been injuriously affected on account of the practice of the spraying of trees. Dr. Wm. McMurtrie, formerly chemist of the United States Department of Agriculture, has shown that even when they were used in such large quantities as to kill the plants themselves, yet the most rigorous chemical analysis could not detect any arsenic in the plants. These results were confirmed at the Michigan Agricultural College. Experiments made at the Colorado Agricultural Experiment Station showed that even when dusted upon cabbages in such quantities as would kill all worms within a day or two, an adult would need to eat some twenty-eight head of cabbage in order to consume a poisonous dose of arsenic, provided none of the arsenic was removed in the process of cooking.

As usually used for spraying apple-trees for the codling moth, of the strength of one pound in 200 gallons of water, one would need to consume several barrels of apples at a single meal in order to absorb a fatal dose. This would need to be done very soon after the spraying, and before it had been washed off by rain. When examined fifteen days after spraying hardly the minutest trace could be discovered.

Likewise of the four copper compounds used, the Bordeaux mixture, the ammoniacal solution of copper sulphate, the eau céleste, and its modified form, many vague and misleading statements as to their danger have appeared. Every one, however, who is familiar with the situation understands that they are simply efforts on the part of selfish competitors to cripple the legitimate trade of more wide-awake rivals. Not a single authentic case of poisoning, so far as the United States Department of Agriculture can learn, has been brought to light. It is true that a few individuals have claimed that they were made sick from eating sprayed fruit, but in all such cases careful investigations have revealed that claims of this kind were absolutely without foundation. Analyses which have been made of grapes intelligently sprayed in France, Germany, America, and other countries have shown that they rarely contain more than five parts of copper in a million, the average being 2.5 to 3 parts. On this basis one might eat from 300 to 500 pounds of sprayed

grapes per day without fear of ill effects from the copper. Grapes which had never been sprayed at all were sometimes found to contain two parts of copper in a million parts, these but slightly less than the average sprayed fruit.—*Boston Medical and Surgical Journal*.

### THE HONEY INTEREST.

The bee-keepers of the United States held their twenty-third annual meeting at Washington, D. C., last week. A committee appointed at the last annual meeting advised a petition to Congress asking that the section of agriculture, in the division of entomology of the Agricultural Department, be raised to an independent division, and that an experimental apiary station be established in Washington. This was adopted. The report stated that the production of liquid honey was in great danger of being ruined by cheap sugar. The bee-keepers do not ask a bounty, but will ask that Congress give them the assistance of scientific research and well-directed experimental work, with a view of cheapening the cost of producing honey.

Prof. Riley, chemist of the Agricultural Department, in a discussion that followed a paper by Prof. A. J. Cook of the Agricultural College of Michigan, on "Detecting the Adulteration of Honey," stated that he had gone into the open market and purchased fifty different preparations of honey and had found that 45 per cent were adulterated. The adulterations operated against the bee-keeper, who could not produce and sell pure honey as low as the spurious article.

### GOOD OLIVE OILS.

DAVID A. CURTIS.

It is a somewhat remarkable fact that the virtues of most of the good things of this world were well known among the ancients. Modern discovery has done much to advance the well-being of the race, but, after all, our forefathers in very remote ages knew much of the valuable qualities of nearly all the most important natural products. This is well illustrated by the subject in hand. From the earliest times of which we have written records, the olive has been esteemed one of the choicest of fruits, and the oil which is expressed from it has been known as the finest of all oils, beyond all comparison. Not only is it the best, but, as in the case of the famous international yacht race, there is no second. It would be tedious, if not impossible, to cite all the testimony which shows that olive oil was appreciated before civilization began. What is more to the purpose is to ask why it is not better appreciated at the present day. Among the cognoscenti there is no lack of appreciation, but it is unfortunately true that the majority of mankind, even today, know nothing of olive oil and never use it. Doubtless this is largely owing to the fact that other oils and fats are cheaper and more abundant, but since the oil of the olive is incomparably the best of all, it is important that its virtues should be more generally known, so that a people like the Americans, who are content with nothing but the best, should use it more generally. Olive oil is the expressed juice of the olive. The olive is a fruit well known all over the world, but growing principally from the basin of the Mediterranean to South Africa. Of late years it has been cultivated with success in Southern California but the products of the American olive gardens, like those of the American vineyards, are hardly as yet on equal terms of competition with those of older countries. The fruit itself is chiefly used as a relish or appetizer

after having been picked before ripening, soaked in alkaline lye, well washed in water and "pickled" in brine. The ripened fruit, however, is little used as an article of diet, finding its way directly to the olive press whence drips the choicest product of all the vegetation of earth. Before considering the nature and uses of the oil, it is worth while to say a word as to the presses. The screw press was known to the Greeks from whom the Romans derived their knowledge of it. The Chinese have used it more centuries than we can say. In the East, before the screw press was known, various appliances of levers and wedges were in use, and this primitive machinery is still found in use in some small communities. Long after the screw came the stamper press, invented in Holland in the seventeenth century. Only a little less than a century ago, however, came the invention of the hydraulic press, which, although it has not entirely displaced the older devices, has practically superseded them in the largest establishments of the world. The main supplies of oil, though not all that finds its way to the great markets of the world, come from Southeastern France, commonly called the Bordeaux district, and the Riviera of Genoa in Italy. Large quantities in addition come from Tuscany and Sicily, though the last named are not accounted of fine grade and are used comparatively little for food. It is unhappily true that owing to the great demand for olive oil and the temptations presented in the process of manufacturing, a quantity of adulterated oil is constantly offered for sale. While it is not to be alleged that any of the adulterants commonly used are injurious to health, it is positive that the flavor and delicacy of the oil are sacrificed for the sake of quantity and cheapness. The ordinary adulterants are the peanut, cottonseed, poppy seed, colza and sesame oils. A particularly fine vegetable oil that is made from the pecan nut would undoubtedly be added to this list but for the fact that the cost of its manufacture is too great to allow it to come upon the market in any quantities. Even coarser oils, such as linseed, have been known to be used, but not in the better grades. The presence of any of these adulterants is readily enough detected by the expert, though the ordinary consumer is likely to be deceived, and is therefore compelled to rely on the responsibility of the merchant. Olives are commonly subjected to three, four, or more squeezings in the press, and the true olive oil of the epicure is the result of the first only. After the choicest product has been carefully taken up, a second pressure is exerted in the bruised mass in the press, and an inferior quality of oil is expressed. This is still edible, and is used to some extent for food by the common people of the country, but more for the finest grades of manufacturing oil. Subsequent pressure produces coarser and coarser oil until there remains only a dry squeezed-out pulp of practically no value. It is with the first product only that merchants and importers concern themselves and its uses are gradually coming to be known to the American public. Thoroughly blended with eggs, acid (either lemon juice or vinegar) and condiments it makes the wonderful dressings or sauces without which the finest salad is insipid; but its use in a salad dressing is by no means the end of its usefulness, though many, even epicurean people, seem to think it is. The ancients knew better, so do the common people of oil-producing countries. One who would try one of their simplest and most delicious dishes has only to rub the inside of a bowl with a clove of garlic, pour some oil into it, put in, if he choose, a pinch of salt, and then dip his bread in and feast. Still greater, perhaps, will be the joy of him who



will fry his fish in olive oil in preference to any other fat. Not only is it incomparable in purity, but the flavor will put him out of conceit with all other. It cannot be called a substitute for butter and lard in cooking. It would be more correct to say that neither butter nor lard is a substitute for olive oil. Medical men have discovered, not only its benefits as a constant article of diet, but that it is of the greatest service both for inward application in place of drugs, and outward, as an ointment. Dr. P. C. Remondino some time ago told at great length how he had so used it with the best results in cases of scarlet fever, diarrhoea, tape worm, pains in the kidneys, strangury, dysentery, flatulence, colic, constipation, hernia, teething, nervousness, rickets, dropsy, neuralgia, rheumatism, gout, chronic skin diseases, and in fact with diseases in general which are liable to result or originate in mal-assimilation, mal-nutrition, or imperfect depuration. He laid great stress on the benefits of anointing with oil which was well understood and greatly practiced by the ancients. The reader will not need to be told that only the best quality of oil is fit for use as medicine, and the epicure will apply the same rule to his table oil, but the question is not so easily answered as to the particular brand which is to be the most highly recommended. Different brands have their different claims, and to discuss these claims would be to lengthen this article unconscionably.

At this point the general public is brought to a halt. Given the excellence of the best olive oil, and the very questionable advantage of buying any that is not the best, how can the average buyer decide. It is absolutely necessary for him to consider the quality first and the price afterwards, but how shall he determine the quality? He can have it decided for him by using the oil known as the Green Tree brand, an absolutely pure olive oil

of unquestioned excellence which the Société Hygienique Alimentaire, a reputable house of many years standing, are offering to the public. They are what is known as "first hands," their oils being carefully selected for this market by their own associates in Italy; they are the only concern in this country who deal exclusively in olive oils, and are people of reliability and undoubted integrity.

#### CLAM BOUILLON

OR FLUID EXTRACT OF CLAMS.

Those who have lived near the eastern seaboard understand the delicious flavor and nutritious properties of the well-known bivalve, the clam. Prepared in any of the many forms known to the thrifty housewife, they form no inconsiderable portion of the food of those families who are accessible to the clam diggings of the Delaware and the Chesapeake and their innumerable inlets. Those who once become accustomed to the use of clams are more ardent devotees at its shrine than can be boasted of even by the oyster.

However, we wish more particularly to speak of the great value of clams as a nutriment for the sick, and one most easily borne in delicate conditions of the stomach. We once heard a learned professor of physiology, in his lecture on nutrition, say that the juice of clams, properly warmed and seasoned, would raise a person from a lower state than any other form of nourishment known to science. He had seen persons apparently upon the very verge of dissolution revive by the administration of hot clam juice, a spoonful or two every few minutes, and start upon the gradual road to recovery. Since then we have had considerable observation which has tended to confirm his statement.

The nutritious portions of the clam, extracted

in the liquid form, and properly called the fluid extract of clams, but also known by the names of clam bouillon, clam juice and clam broth, contain the ultimate principles for tissue-building, and in their most readily assimilable form. No previous process of digestion seems to be necessary, as the stimulating effect is felt almost immediately, if taken when the stomach is empty. The clam being one of the lower forms of life, not very greatly developed from the simple protoplasmic mass, it is likely that this extract represents the elementary form of nutrient material, requiring little or no change before being absorbed into the blood.

For administration, a tablespoonful of the fluid extract of clams is added to three tablespoonfuls of hot water and seasoned to the taste with salt, pepper, butter and milk, or cream. These articles of seasoning may be added or not, according to the condition and requirements of the patient.

In fevers, where the natural secretions of the stomach are deficient or absent, the above will be found to agree quite well. Also, in gastritis or gastric ulcer or cancer. After long abstinence from food it will prepare the stomach for the reception of more solid food. There is nothing that will give such improvement in the gastric catarrh and nervous debility of drunkards. For insomnia, a hot "night-cap" of clam broth, made as above, cannot be excelled; in low states of the nervous system, or to sustain one through severe and protracted mental application, it is very useful. In the irritable stomach of the summer diarrhoea of children its use is indicated. For dyspepsia it is excellent.

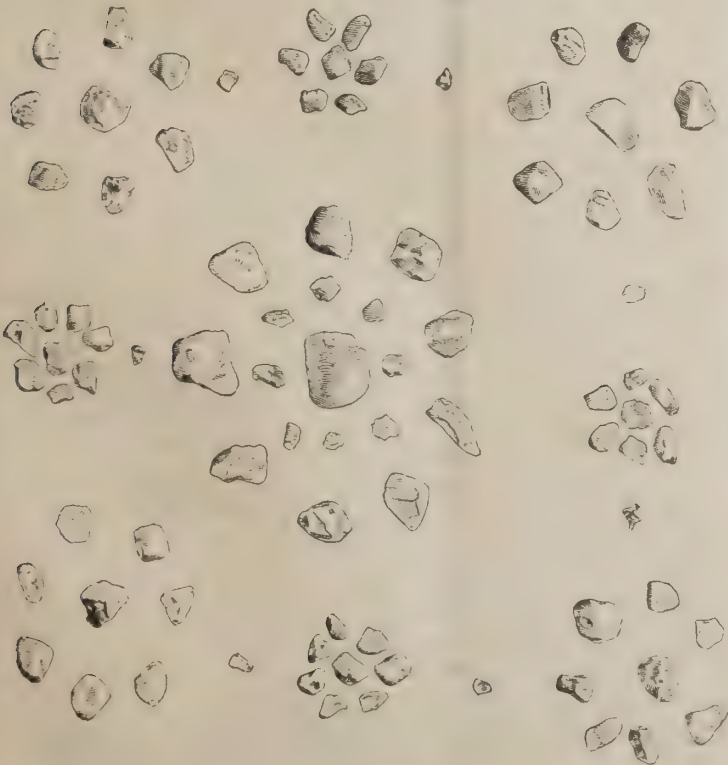
So, then, dear reader, let us drink you a toast in a cup of hot clam broth, a product of nature's wonderful laboratory.—*Medical World*.

One half of the world doesn't let his better half know how he lives.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## YOU ARE SURE TO NEED IT.

So long as the mistaken idea prevails, that nature requires one to eat to satiety of rich and heating food in the winter season in order to keep up the necessary animal heat, so long those who make that a practice will suffer the consequences of such imprudence, and those results may well be exceedingly serious. It is quite true we can digest and assimilate more rich food in cold weather than in warm, provided we take out-door exercise and fresh cold air is inhaled in sufficient quantity to oxygenate the blood. But the limit of our capacity for such diet is readily reached, and beyond it, the effects are the converse of what we desire, even in the matter of heating. Food that is slow of digestion—as all grease is—tends to overload and pervert the assimilative organs, so that the blood is rendered unduly thick and sluggish, charged with fibrinous and other impurities which impede its circulation, increases the labor of the heart and poisons instead of nourishing all the vital organs. Blood which moves sluggishly is imperfectly acted upon by the oxygenating lungs, consequently is lacking in the vivifying and heating qualities we desire to promote. In other words, too much endeavor to attain a wished for result in this as in many other things, tends to direct defeat of our ends. But this is not the worst of the train of evil conditions we are liable to set in motion at the same time. Some of our most popular articles of winter food directly contaminate the life current by introducing into it foreign matter which, if not ex-

## Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

### Horsford's Acid Phosphate.

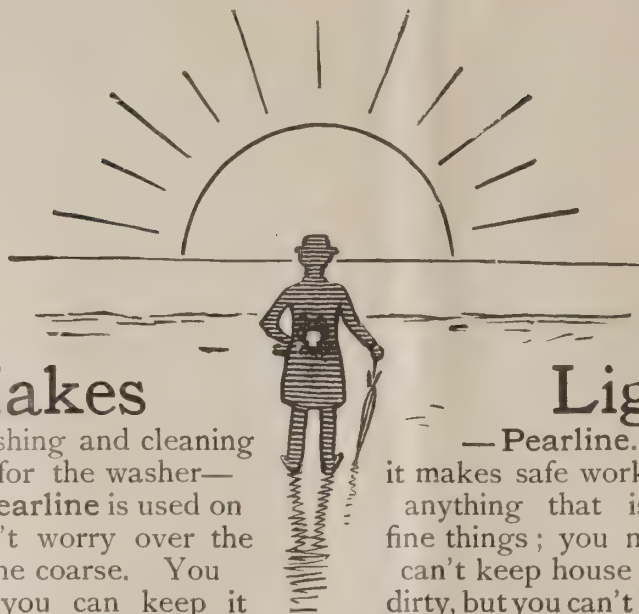
"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to  
Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For sale by all Druggists.



**Makes**  
work of washing and cleaning  
light work for the washer—  
washed. Pearlina is used on  
You needn't worry over the  
hard over the coarse. You  
Pearline; you can keep it

**Beware**

Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as Pearlina." IT'S FALSE—Pearline is never peddled, if your grocers send you an imitation, be honest—send it back.  
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JAMES PYLE, New York

pelled, inevitably induces disease. Oatmeal and buckwheat cakes are illustrative of this effect. Everybody knows that protracted indulgence in them during the winter must be repaid by an intolerable itching in the skin. That itching is simply an evidence of nature's efforts to get rid, through the excretory functions of the skin, of the accumulated impurities they have put into the blood. And we must recognize that these are not merely at the surface where they make themselves so keenly felt. They are scattered to every molecule of tissue reached by the blood; irritating the nerves, setting up inflammation of the walls of the circulatory system, perverting the functions of the assimilative organs and overtaxing the eliminative and excretory powers. After the itching will come pimples, pustules, boils, perhaps even carbuncles, all demonstrations of the herculean endeavors of nature to clean the Augean stable we have made of our bodies. If we wish to avert disease, and very possibly death, from these causes we must aid this process of purification by an effective alterative medicine, one which will not only expel the foreign matter from the blood, but remedy—by restoration of healthful conditions to the vital organs the harm which has already been done. Nothing is known to curative science which is better for this use than Ayer's Compound Extract of Sarsaparilla. The most potent and universally applicable of all alteratives and at the same time the safest. Its basic ingredient is, as its name indicates, sarsaparilla, but a wide difference exists between the drug of that name as presented in this preparation and the so-called "sarsaparillas" with which the market is flooded, for this alone is extracted from the root by a process which dispels none of its volatile and peculiarly valuable properties. With it are compounded the extracts similarly prepared of stillingia, yellow dock, and other ingredients, forming a combination which includes all the most valuable alteratives known in the pharmacopeia.

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## AN ENGLISH OPINION OF COTTOLENE.

The present century has been remarkable for many wonderful inventions and discoveries. It has, particularly during the past fifty years, produced many labor saving contrivances, which has considerably lessened the cost of manufacture; and ingenious individuals have provided us with substitutes for various articles, which, in some instances, have taken the place of the originals, either from superiority or cheapness, and, in most cases, have entered into competition with those for which they are substituted. Our American cousins have been prolific in new ideas, and one of the newest things they have produced, interesting and useful to bakers and confectioners, is the new vegetable substitute for butter and lard, known as Cottolene. It is manufactured in Chicago and placed upon the British market by Messrs. Bigland, Sons, & Jefferys, of Liverpool, who are the exclusive agents for the United Kingdom.

A sample of Cottolene has been submitted to us, and which has been tested in the manufacture of cake, and the result is that we can recommend it as an economical and efficient substitute for either butter or lard. It creams up like butter, and in this respect has a distinct advantage over lard, than which it is much cheaper. The practical baker will recognize the fact on trial and will doubtless estimate its value in the saving to be effected in its use when we mention that it will go much further than either. For every pound of butter or lard used twelve ounces of Cottolene will be sufficient. It is entirely free from salt or water or coloring matter, and is certified to contain 100 per cent of fat. It is used precisely in the same way as butter or lard, and as there is no salt to wash out when used instead of the former, there is a saving of time and labor.

Cottolene approximates at times, we are informed, to the color of natural butter. The sample under notice is a paler yellow than butter and of the consistency, texture and substance of lard. It has a neutral flavor and is without odor, but in the manufactured article develops a rich flavor. It is serviceable for buns, plain paste, biscuits, and cakes, and also for frying purposes. It is not suitable for use on bread or for puff paste as butter, but for all other purposes may be recommended. The advantages claimed for Cottolene are that, compared to butter or lard, a smaller quantity will obtain the same results, that it gives a richer appearance to buns, scones, cakes, etc., that it contains neither salt, water, nor coloring matters, that it keeps sweet longer than lard if kept from exposure to the air, and that being a vegetable product, articles of food cooked with it retain their natural flavor without any greasy taste.

We learn that the manufacturers have to-day an output of over 1,000 tons per month of this article, and that they have during the last month started further plant which will cost £50,000 to enable them to cope with the increased trade.

Cottolene has been submitted for analysis to Messrs. A. Norman Tate and Company, of Liverpool, who say of it that when subjected to a temperature decidedly higher than is necessary for cooking, it shows no tendency to become rancid, discolored, or decomposed. Nor does it evolve unpleasant odor when so heated, as is the case with many other cooking oils and fats which we have examined. And further, it can be used repeatedly without disadvantage. Its flavor, odor, and color are very satisfactory, and these are retained after subjection to a high cooking heat. It may be used with advantage as a substitute for butter and other fats in making pastry

and cakes. Scones, buns, bunloaf, and meat pie paste made with it have proved excellent, and, as compared with the weight of butter employed in making similar cakes, the quantity of it used is very much less. Further, as regards Cottolene as food, it is readily assimilated, and should be equally as useful as a fatty food constituent as butter and other fats now employed in cooking. In short, we consider it in every way a pure, wholesome, satisfactory medium for cooking purposes, and decidedly superior to most of the oils and fats now in use.—*Practical Confectioner and Baker.*

## WORLD'S FAIR.

EXHIBIT OF MESSRS. WALTER BAKER &amp; CO.

Under a special concession from the World's Fair authorities, Messrs. Walter Baker & Co., of Dorchester, Mass., the well-known cocoa and chocolate manufacturers, have erected in a conspicuous position on the fair grounds at Chicago a building for the sale of their goods. It was designed by Messrs. Carrère & Hastings, of New York, the architects of the Ponce de Leon at St. Augustine, and of many of the finest buildings in New York.

For the reason that the surrounding buildings at the Fair are so very large, and so classical and symmetrical in plan and character, it was thought best to adopt for Walter Baker & Co.'s pavilion a style of architecture showing a good deal of detail, making this detail of a character so interesting as to attract attention, and so light and gay as to clearly express its purpose as a place of exhibit.

Two main entrances through arched vestibules lead from the ground floor into a large hall to be used as a café, in which breakfast cocoa will be served by young ladies dressed in the costume of Liotard's "La Belle Chocolatière." Small tables and chairs will be provided for the convenience of guests.

Hot and cold chocolate soda will also be served from counters in this room. The great variety of cocoa and chocolate preparations manufactured by Walter Baker & Co. will be exhibited in handsome show cases made especially for the purpose.

A broad and monumental flight of stairs, forming one of the principal motifs of the composition, will lead to the second story, part of which will be enclosed, forming another café, which will be served through dumb-waiters from the downstairs department, and part of which is arranged in terraces, covered with awnings, to be used in connection with the café. A private office for the managers of the exhibit is also provided on this floor.

Special study has been made of the lighting of this building in the evening, so as to make it as attractive, gay, and bright as it will appear during the day.

The cocoa and chocolate manufacturing establishment of Walter Baker & Co., at Dorchester, is not only the oldest, but the largest of its kind on this continent. The mills belonging to this house are situated on the Neponset River, partly in the Dorchester district of Boston and partly in the town of Milton. The plant comprises five large mills (having a floor space of about 315,000 square feet, over seven acres), equipped with all the latest and most improved machinery. The full strength and the exquisite natural flavor of the raw materials are preserved, unimpaired, in all of Walter Baker & Co.'s preparations, so that their products may be truly said to form the standard for purity and excellence.

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## BOOK NOTICES.

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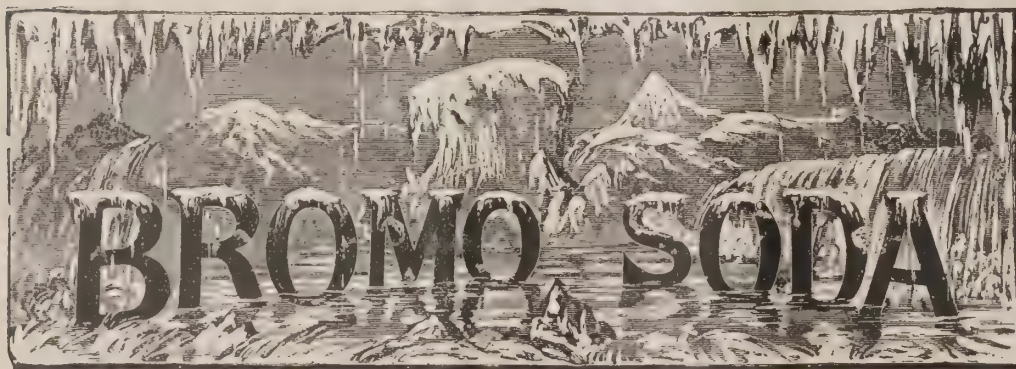
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## PATENTS

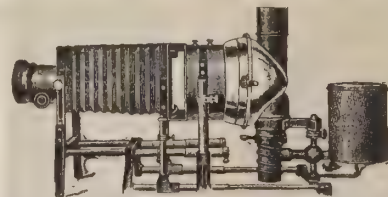
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No. 19 Park Place, New York

FEBRUARY 15, 1893.

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### USE OF ARTIFICIAL PRESERVATIVE AGENTS.

There has been so much written on the subject of using artificial preservative agents, that it seems the public should be well informed on the arguments pro and con. Judging from the decision of the British Court quoted in another part of this number, and the editorial approval by the *Mineral Trade Review*, the following article from the *Medical World*, seems to us timely. While we agree with the sentiments of the writer as a whole we cannot accept some of his deductions. For instance the test he recommends for discovering the presence of salicylic acid is entirely wrong. There are many things to which salicylic acid may be added and could not be discovered by this test and on the other hand the characteristic violet reaction may be obtained without the presence of salicylic acid.

### FOOD ADULTERATION AND THE USE OF ARTIFICIAL PRESERVATIVE AGENTS.

In this age of commercialism the public is compelled to guard itself, through its authorized

agents and through the public and scientific press, against the rapacity of those whose greed instigates them to attempt to amass wealth by other than strictly legitimate and honorable means.

One of the most dangerous means of acquiring unjust gain is by the adulteration of articles of food and by the employment of injurious and even highly dangerous chemical substances as food preservatives. People who are totally ignorant of the science of chemistry and of the deleterious effects of certain chemical agents upon the human system, are engaged in manufacturing various impure food products and sending them broad-cast among the people. Some of these manufacturers are so honorable and conscientious, that they would change their mode of doing business, if they were properly informed of the baneful character of the articles they used. Others, however, know no restraint but a strictly enforced law. For such and, in fact, for all, plain, explicit laws should be enacted and enforced with absolute and impartial strictness, as the mistakes of the ignorant are fraught with the same calamitous results as the venality of the unprincipled.

However, we believe that the only effective way to put a check to this extremely pernicious and dangerous practice is to establish a suitable national, state or city department, with competent scientific analysts, vested with the authority to restrain from doing business any person, firm or company that persists in putting forth adulterated or otherwise injurious articles. Surely, health is as much entitled to protection as property.

Apropos of this subject, Mr. John Gilmer Speed, in the October *Chautauquan*, gives a long list of common food adulterations, many of them highly deleterious to the health. It is quite likely that alum in baking powder might be found to account for many cases of derangement of the menstrual function, and certainly the sand found in pepper and sugar is productive of none but injurious results.

However, simple adulteration is not likely to be quite as harmful as is the employment of powerful antiseptic agents for the purpose of preventing certain foods from decomposition. The problem has not yet been solved of finding a harmless preservative agent, excepting common salt, wood smoke, and the action of heat. Prominent among the powerful preservative chemicals, and the one most commonly used, is salicylic acid. It is extensively used to keep certain malt liquors, cider and artificial drinks. It is also used to preserve a large variety of canned foods, especially vegetables. These articles can all be preserved without its use, but the processes are somewhat expensive and difficult; hence the resort to the cheaper and easier method. It is occasionally used in certain dietary preparations in quantities sufficient to preserve them. This we cannot help regarding as a great mistake, as these articles are used, not only by the robust and healthy, but by those in delicate health, and even by the very sick. In some cases it might be beneficial, in

many injurious, and in a few fatal. The physician should be the judge of the need of this medicine, and should not be compelled to administer it with every mouthful of food. Only that should be used that is guaranteed absolutely free from all artificial preservatives. The educated physician is already well aware of the injurious effects of salicylic acid upon the animal economy, when not absolutely demanded for the treatment of a disease to which it is applicable. He is also aware that even then it is administered for only a very short time. In fact, so severe is its action upon the coat of the stomach, producing great irritation and finally gastric catarrh, that it is now seldom prescribed at all; but for many years past it has been the custom among the profession to prescribe some of its less irritating salts, as the salicylate of sodium, whenever its action is desired. But lest some one should claim for it a beneficial effect upon the healthy human system, we will quote some authorities.

Wood ("Therapeutics, Its Principles and Practice") gives as some of its injurious effects, fullness of the head, roaring and buzzing in the ears, headache, deafness, partial blindness, excessive sweating, delirium, albuminous urine, the formation of bed-sores, skin eruptions, great nervous prostration, breaking down of the blood and, in many authenticated cases, death.

Potter, in his "Materia Medica, Pharmacy and Therapeutics," says of salicylic acid as follows:

"In small doses it stimulates the stomach, heart and respiration, but moderate quantities derange the stomach, causing nausea and vomiting, while large doses depress the heart's action and the respiration after a primary excitation of both, lower the arterial tension, relax the vessels, produce free perspiration, and reduce the temperature in fever. It causes vertigo, dilated pupils, tinnitus aurium, a sensation of tension in the frontal cerebrum, delirium, and may produce bed-sores from depression of the circulation, but does not affect the peripheral nerves as to either motion or sensation. It stimulates the kidneys, at the same time disinfecting them and increasing the acidity of the urine, but may so irritate the kidneys as to produce albuminuria and hematuria."

The United States Dispensary says as follows:

"Salicylic acid has been used for the preservation of various articles of food, but the employment of it should be interdicted, a commission appointed by the French government having reported that its prolonged use, even in very small amounts, is dangerous, especially to aged persons."

Bartholow, in addition to the general statements made above, asserts that the drug is especially dangerous in those who have been addicted to the use of alcoholic liquors—"bringing on, in them, violent delirium."

But it is unnecessary to multiply authorities. They all agree that this agent is an effective remedy, administered for a short time only, in certain acute diseases, but is otherwise injurious.



The test for it is simple. Add a small quantity of the solution of the chloride of iron (ferric chloride) to the substance suspected to contain salicylic acid. If it be present the mixture will develop a deep violet red color. In some articles it is used so freely that its presence may be detected by its pungent biting impression upon the tongue and throat.

Let us imagine a man sitting down to his dinner in these modern times. He takes his cup of clam broth—perhaps several of them, as, when pure, it is an especially wholesome drink—his tomatoes, corn, peas, beans, etc., all of the cheaper grades of canned goods, preserved with salicylic acid, until, in the course of the meal, he has taken, in all, a large dose of the drug. Then he wonders what gives him such a fearful headache. He keeps on in this way until he soon begins to wonder why it is that his health is failing, since he lives such a correct life, while his father on the farm is enjoying a hale old age.

The same thing, practically, only with different details, may be said of other powerful preserving agents. The only general preservative allowable is heat, as employed by the careful housewife in putting up her fruits. It is the truly scientific and successful process.

In the light of the foregoing it would seem that it is the duty of every physician and every head of a household to see that all food which receives their patronage is absolutely pure, until such time as we may all be effectively protected by the public authorities to be created for that purpose.

The honest manufacturer of pure articles of food will welcome such a state of affairs as heartily as any one, since it will compel all others in his line to compete with him upon fair and honorable terms.

## HYGIENIC.

### HOW TO LIVE WHERE THERE IS MALARIA.

In his recent work on "The Climate of Rome and the Roman Campagna," Professor Tommasi-Crudeli devotes a valuable chapter to the subject of the preservation of human life in malarious countries. Our readers will be glad to have in a compact form the views of so eminent an authority on this very important and interesting topic. We must be content to admit for the present we have no precise knowledge of the nature of the malarious poison or of the means whereby it can be extirpated from the soil of an infected locality. That the poison inheres in the soil; that it is under the influence of season, temperature and rainfall; that it is excited to fresh activity by all measures involving the disturbance of earth long left quiescent; that its ravages have been much reduced by drainage, by the conversion of naked soil into meadow land, and by the erection of houses and laying down of paved streets—these facts are certain, and almost exhaust our knowledge on the subject.

Professor Tommasi-Crudeli points out that the traditional precautionary measures long adopted in malarious countries have had two ends in view, viz., to reduce as much as possible the quantity of the malaria ferment which enters into the system through the air breathed and to prevent a lengthened abode of the same in the system. The first point is sought to be achieved by avoiding agricultural operations during those hours at which the malarious influence is most potent, viz., about sunrise and sunset; hence, according to the writer, is really explained the

much misunderstood dictum of the ancient Sybarites: "If you wish to live long and well, do not ever see the rising or the setting sun." Another point of the greatest importance is to avoid breathing the air in close contact with the soil, as it can be shown that the malarious poison rises only a short distance in a vertical direction. Thus in the Pontine Marshes, an intensely malarious region, platforms four or five meters high are erected, upon which the people sleep in the open air with comparative impunity. In Greece, the jungles of the East Indies, and Central and Southern America, similar devices have been adopted with beneficial results. Another mode of eluding the malaria-laden air in close contact with the ground is to construct the dwellings in such a way that when the door is shut the internal atmosphere is renewed only by the strata of the local atmosphere which are near the roofs of the houses. This is managed in some localities by so arranging that the only opening in the outer wall is the door, and all the windows open on an inner yard at a higher level than the ground floor of the house.

It is advisable also to keep the windows of the houses closed in the morning and during the early hours of the evening, especially if any excavations should be going on in the neighborhood. Care should be exercised regarding the effects of placing vases of flowers in occupied rooms; either these should be entirely excluded from houses when malaria is rife or the utmost vigilance should be taken to secure thorough ventilation.

The above measures all aim at preventing the reception of the malarious poison into the system or of reducing the amount received. Other measures are directed to preventing the germs, already absorbed, from remaining in the human body for any length of time. These measures, according to Professor Tommasi-Crudeli, all resolved themselves into expedients for maintaining in an active and regular condition the circulation of the blood. Everything that tends to keep the secretions healthy and active promotes the elimination of the malarious poison and reduces the probability of its effecting destructive changes in the body. The principal indications are to maintain constitutional vigor by good nourishment, the moderate use of wines and spirits, and to avoid all disturbances of the system from variations of temperature. Hence warm clothing, even in the hot season, is indispensable.

The difficulties regarding the above preventive measures are the same, expense, self-restraint and inconvenience involved in carrying them out. Acclimatization comes to our aid; not, however, acclimatization of the individual, but of the race. "The power of constitutional resistance has been proved to be hereditary, and the repeated selections, caused by malaria in each generation, have conduced to the eventual increase of the resisting powers of the race, and that to such a degree as to enable it to found powerful colonies in unhealthy sites, such as in Italy were those of Selinunte, Agrigentum, Sibaris, Paestum and Rome."

The chief remedies that have been used to combat malaria are quinine, arsenic, eucalyptus, salicylates, the fruit of the lemon, etc. The good effects of quinine are, of course, unquestionable. Its anti-malarious influence is, according to Professor Tommasi-Crudeli, rapid but fugitive. Quinine is, unfortunately, rather expensive and tends after a time to disturb the digestive organs and the nervous system.

Arsenic the writer regards as a remedy of the very highest value, especially as a prophylactic. He has instituted extensive experiments among the properties of the landowners of Tuscany,

Rome, Puglia, and Sicily, and among the workers on the Roman and southern railways with encouraging results. Dr. Ricchi, the chief medical officer of the southern railways, experimented in the year 1883 upon seventy-eight persons in the district of Bovino, where malaria is very virulent.

He divided them into two categories, one of which only was subjected to the preventive system by means of arsenic.

The result was that the great majority of those who took no arsenic (we are not told the precious number) had violent attacks of fever, while of those subjected to the arsenical treatment thirty-six escaped entirely, while the remaining three had only slight attacks. Other experiments were not less satisfactory, and some cases of failure were attributed to the arsenic having been administered in a non-assimilable form.

Professor Tommasi-Crudeli has no faith at all in the alleged anti-malarious influence of the salicylates, and attaches hardly any greater value to the use of eucalyptus. He also disputes the alleged beneficial results said to have attended the planting of eucalyptus trees in malarious regions. He thinks much more highly of a popular remedy widely employed in many parts of Italy, Greece, Arabia, the West Indies, etc., viz., preparations of the lemon tree. The most active preparation is said to be a decoction of the whole lemon fruit, and remarkable results are claimed for this cheap and simple remedy.

The net result of Professor Tommasi-Crudeli's experience would seem to be that hygienic and dietetic measures are of the greatest importance in dealing with malaria, that arsenic has a true prophylactic influence, and that quinine and a decoction of lemons are the most valuable remedies during the actual attack.—*Lancet*.

### KISSING THE BOOK.

In England the law has been altered relative to the practice of administering oaths in certain cases. It is no longer necessary to "kiss the book," but the oath may be administered without this formality, each person raising his right hand while being sworn. This was done recently in Middlesex by the coroner, Dr. W. B. Gordon Hogg, and is a proceeding to be greatly commended. We have lively remembrances of our own coroner, with his white locks and Bible, the covers of which are not white and which have to be held in place by a rubber band. We were told to take the book in our right hand, and we did it reluctantly, a set of words is rapidly said, ending with the formula "kiss the book," and with a shudder we complied, thinking ourselves fortunate if we did not gather the germs of at least seven deadly diseases. The juries, sworn on the same book, were picked up in the street and from the waiting room of the hospital, some, indeed, suffering from contagious disease, but still to satisfy a sentiment the old formula of kiss the book is still adhered to. We echo the words of the *British Medical Journal*, "It is to be hoped that we shall soon hear the last of the unseemly practice of 'kissing the book,' which is certainly not free from danger of conveying infection, and in any case is an uncleanly practice."

OID'S RECEIPT FOR WRINKLES—Take equal parts of bean and barley-meal and mix with raw egg. When the mass is thoroughly hard and dry it should be ground to a fine powder and made into an ointment with melted tallow and honey. A thick layer of this applied to the face every night was warranted to smooth out all wrinkles and make the skin as soft as a baby's.



## BANANAS AND POTATOES.

The banana and the potato disclose through chemical analysis that they are almost identical in composition, as witness the following comparison:

	Banana.	Potato.
Water.....	75.71	75.77
Albuminoids.....	1.71	1.79
Total carbonaceous matter		
(non-nitrogenous).....	20.18	20.72
Woody fibre.....	1.74	.75
Ash.....	.71	.97

W. M. Doherty deduces from these figures the fact that so far from the banana being a perfect food for man, as is frequently claimed, the small quantity of albuminoids present indicates it as being insufficiently nutritious. The average man, under normal conditions, requires 4.2 ounces of flesh-forming substances daily, to obtain which he would need to eat fifteen pounds of the fruit, and this would contain nine pints of water. It is, therefore, a very unevenly balanced food, which is not suited alone for man's diet, but is an excellent and wholesome addition to a diet rich in nitrogenous substances.

## ICE AS A DISEASE CARRIER.

The police authorities of Berlin (*Allgemeine medicinische Central-Zeitung*, November 2, 1892) issued the following public notice on October 21:

"Investigations made at the Royal Health Board have demonstrated that specimens of ice used in Berlin saloons, even though of good appearance, contained microbes unchanged in their ability to develop and become dangerous to health. It has thus become apparent that the diseases frequently observed following the use of drinks, which had been cooled by placing bits of ice into them, were less due to the low temperature of the drinks than to the causes of disease contained in the ice.

"The same disadvantages can be produced in solid foods, such as butter, when cooled upon ice.

"Therefore the public is warned against the use of drinks and other foods which have been cooled by ice in the manner before mentioned and which consequently may prove dangerous to health." *Condensed Extracts.*

Of course this only applies to ice taken from foul sources. There is plenty of pure ice obtainable.

## HEREDITY STOOP.

I have frequently been told by the mother of a stooping child that she could not hope for much change because the posture was natural to the family. The father had always stooped and his father before him, or the habit existed in herself and among her ancestors.

I think there can be no doubt that in certain families an hereditary tendency of this kind occurs, and especially in old families, and notably among the aristocracy of this country, but the habit is not the less harmful than when otherwise engendered, nor is it then incurable.

I especially call to mind just now the family of one very important nobleman and statesman, many of the male members of which are notably thus afflicted; but I do not doubt that with due care and the adoption of suitable corrective measures all these individuals might have been properly developed, and thereby their physical strength, their general health and their personal appearance considerably improved.—From "*Education Without Deformity*," by Noble Smith, F.R.C.S.

## TOO SLOW.

Dr. Holbrook takes issue with the prevalent opinion that as a people Americans are living too fast, and is inclined to think that the majority of us are too slow. For instance, we are in no hurry to go to bed at night, or to get up in the morning. We are in no haste to learn the best ways of living, so as to make life deeper and richer. We are in no haste to give up unwholesome food and drinks. There is no hurry about changing an unhealthful style of dress for one better adapted to our needs, nor is anybody in haste to build more sanitary houses or develop physical bodies as perfect as nature intended them to be. If we were in greater haste to do these things we might work at a far more rapid rate than we do, and be the better for it.

## HOUSEHOLD.

## LAUNDRY STARCH POLISH.

In answer to a correspondent the *National Druggist* gives the following information about laundry starch polish:

The formula for starch gloss is in use in some of the largest local laundries, who use it in the proportion of 1 ounce to 5 ounces of boiling starch. Of course the mixture must again be brought to the boiling point, and boiled for a few minutes. Possibly the differing conditions of atmosphere and temperature between St. Louis and New Orleans may be the cause of failure. Plain stearin, or stearin and prussian blue or ultramarine is used in most of the Chinese laundries here. A formula highly recommended by a gentleman who for many years was connected with the laundry department of a Troy (N. Y.) collar factory, is as follows:

Stearin.....	25 parts.
Spermaceti.....	200 parts.
White wax.....	100 parts.

Melt together, and while melted stir in  $\frac{1}{2}$  grain of ultramarine to each ounce of the mixture. (As liquid blue is used with most starches the latter may be omitted.) Let cool and cut into little blocks weighing about 2 drams each. One of these bits may be added to each  $\frac{1}{4}$  pound of starch used. The starch should be allowed to boil for fifteen minutes before adding the gloss, and the boiling should be continued for at least five minutes longer.

## THE PERFECT LAUNDRESS AND HER PRACTICES.

[By Martha McCulloch Williams, in the *Los Angeles Times*.]

To wash or not to wash, is seldom the question.

Civilization so emphasizes cleanliness as to make plentiful and regular laundering imperative.

But the wisest woman of us may well ponder the how and wherefore of clean clothes. Soiled garments may duly go through the suds, the boil, the rinsing water, and yet they may come out almost as far from clean as they went in. Indeed, their case is often worse.

Every skilled laundress knows that it is much easier to wash a garment in the original dirt than to make it white and clean after it has come streaked and grimy from the tub.

The reason is not far to seek. A wise man has defined dirt as "matter out of place." What is called "dirt" upon our clothes is a mighty varied assortment of "matter," spread usually on the

outside fibres of textile stuffs. Soap, water and rubbing, well applied, will remove it. Ill-applied the result is to "set the dirt" by carrying it so deep into the texture as to make its removal very much harder.

Dirt is got rid of in two ways—chemically and mechanically.

In the first, the water dissolves it out of the fibre; in the second, the particles are expelled by rubbing, kneading or pounding.

The soiling upon body and bed linen has always more or less of oil from the skin. With this soap unites to form a compound soluble in water—especially hot water; hence the efficacy in boiling in soapy water.

On the other hand, acid or milky or pasty spots are hardened by the action of alkalies and heat. Often, too, they are discolored as well. Therefore everything soiled in such manner ought first to be well soaked in clear, cold water, then rubbed through clear hot water, before dropping it into suds. Without such precaution the last estate of table linen, children's garments and many other things is apt to be worse than the first. Fruit stains in particular, readily removable after the cold soaking, become darkly indelible at the touch of soap.

Chemically, soap is a salt, the compound of fatty and resinous matter with an alkaline base. In a perfect soap the ingredients balance exactly. Many of the cheaper soaps have a resinous or else an alkaline excess. The effect of alkali upon fibre of all sorts is to eat it and destroy it. That is why many washing powders play such havoc with our wardrobes. They do take out the dirt—no doubt of that—but take so much of the garment along with it as to make the triumph of cleanliness dearly bought.

Soda, potash, borax, and ammonia are the chief of our chemical allies in the fight with dirt. The two first are used chiefly in the form of soap. Borax is used to some extent as a component of soap, but more largely in the form of powders. Ammonia is used in liquid state, and is certainly a most valuable detergent.

It is impossible to make clothes thoroughly clean with soap and hard water, since the lime of the water combines with the alkali of the soap, throwing down a hard, powdery precipitate, and setting free a greasy, gray-white mud to float on top of the suds and smear whatever is in them. When hard water must be used for washing, first soften it with lye, using a cupful moderately strong to a large tub of water. Lye from wood ashes is best and can be made in country kitchens a month's supply at a time, and bottled for use. Dissolved pearl ash or even washing soda is generally used in city kitchens. Never put in soda or pearl ash in lumps or powder. The tiniest fleck remaining undissolved may mean disaster to the very garment you wish most to keep whole and sound. Dissolve an hour before use—over night is better and safer.

The perfect laundress is a compound of mind and muscle.

She can rub as hard as fate when it is really necessary—yet in general she saves her energy and her garments so wasteful an expenditure. She knows that what is saved in soap is more than lost in time—also that you cannot gather clean clothes from dirty suds, no matter how white and strong the foam on top of them.

Her tub is as full of suds as it will hold without too much splashing over, yet is not so full of garments that she cannot freely souse and lave each piece.

She knows, too, that the dryer they are wrung the less dirt goes with them into the boiler or the next tub.



She takes up nothing at haphazard—tugging now at a sleeve, now at a neck band, now groping blindly for the “dirty place on the sheet.” Instead she folds the dirty spots outside before water touches the garment, and when they have been sufficiently soaped and soused and rubbed, she gives the garment a vigorous plunging and treating in *extenso*. She keeps her lather full strength. Changes it often.

She knows that the quicker colored things are washed and dried the brighter they will be.

Above all—the crown and cap-sheaf of her practice—is her belief that thorough rinsing is the secret of fresh, clean-smelling garments.

#### TESTED RECEIPTS.

Every receipt here given has been practically tested by the *AMERICAN ANALYST* and is therefore confidently recommended.

##### BAKED BANANAS.

Put three tablespoonfuls butter, and six of sugar, and three of lemon juice into a bowl. Set in hot water. Peel and quarter six bananas and baste three times with the above preparation. Bake thirty minutes.

##### WINE SAUCE.

One cup sugar, two tablespoonfuls butter; rub together; one egg. Scald one cup of wine and while hot add the above mixture. Serve cold.

##### CRULLERS.

One large cup of sugar, one large tablespoonful of butter, two-thirds of a cup of milk, two eggs, two teaspoonfuls cream tartar, one teaspoonful soda, a little nutmeg, about three cups of flour, or enough to make stiff to roll out.

##### RAILROAD CAKE.

Six eggs, six tablespoonfuls butter, six tablespoonfuls milk, two cups sugar, two cups flour, one heaping teaspoonful of baking powder; flavor with lemon or vanilla.

##### CHICKEN CROQUETTES.

Boil a chicken and set of calf's brains. When cold chop the chicken very fine. Mince a small onion and some parsley together. Put in a saucepan butter size of an egg; when hot put in onion and parsley and a little flour. Thin with beef stock if you have it. When a smooth paste, add pepper, salt, the juice of half a lemon, and two tablespoonfuls of sherry or port wine. Mould into shape, dip in egg and cracker crumbs, and fry in boiling hot lard.

##### CLAM CHOWDER.

Twenty-five claims, half pound salt pork chopped fine, four sliced onions. Put pork in stewpan, cook a short time, then add eight potatoes that have been cut in thin slices, onions, and juice of clams. Cook two and a half hours, then add clams, and fifteen minutes before serving add two quarts of milk.

##### EGG BALLS FOR SOUP.

Boil four eggs until hard, then put in cold water; mash yolks with yolk of one raw egg and one teaspoonful flour; add a little pepper, salt and chopped parsley. Make into balls and boil two minutes in the soup.

##### TANNIN IN TEA.

“Some examples which have been forwarded to us,” says the *British Medical Journal*, “of the results of analyses for tannin and theine in tea indicate considerable variations in the amount of tannin, according to the quality of the tea and the state of growth at which it is picked. In some blends of China teas the percentage of tannin ex-

tracted by infusion for thirty minutes was 7.44; theine, 3.11; and a similar result was given in the examination of the finest Moyoing; while, on the other hand, with fine Assam tea a percentage of 17.73 of tannin by weight was extracted after infusion for fifteen minutes, and two blends of Assam and Ceylon tea gave, respectively, 8.91 and 10.26 of tannin. On the whole, it is probable that the Indian teas are much more heavily loaded with tannin than the China and Japan teas. Moreover, the common method of prolonged infusion in boiling water is well calculated to extract the tannin, while it dissipates the flavor of the tea.

“To be drunk reasonably, tea should not be infused for more than a minute, and with water of which the temperature does not exceed 170 deg. F. It should be taken without sugar or milk, which would drown the flavor of the delicate and aromatic infusion thus obtained. This at least is how the tea is drunk both in China and Japan, whence we have borrowed the use of it. With our European method of prolonged infusion in boiling water we destroy all the best flavor of the tea, and we extract such heavy proportions of tannin as to cultivate indigestion as the result of tea drinking. Indigestion is unknown among tea drinkers in the East, and it is in all probability only the result of defective use of the leaf.”

#### HOW TO ADMINISTER CASTOR OIL.

By mixing a dose of castor oil thoroughly with about four times its quantity of hot milk, children will not object to it and it has the additional advantage of increasing the activity of the oil.

#### PERFUMED GLOVE-CLEANING FLUID.

Please give a formula for a glove cleaning mixture that can be perfumed so as to avoid the benzin smell common to most of them—something elegant.

For the glove cleaner try the following:

Benzol, ordinary.....16 ozs.  
Alcohol absolute..... 4 drs.  
Sulphuric ether..... 2 drs.  
Perfume to suit.

##### Mix.

Deodorized benzin, so called, may be substituted for the benzol if cheapness is sought for, but there is no comparison as to the elegance of the product. The pure benzol (non-crystallizable) Merck's, costs about forty or forty-five cents per pound. It has a pleasant and fruity odor and great cleaning power. Oil of lavender makes a good perfume for the mixture. You should put on the bottles a caution that the mixture must never be used in the neighborhood of fire, or by gas or lamplight, as it is exceedingly inflammable. —*National Druggist*.

ARE YOUR SINK-PIPES STOPPED?—Clogged sink-pipes are amongst the greatest nuisances of the household. They will get stopped although care and constant attention will do much to abate the evil. We need not expatiate upon the precautions that are necessary. How may they be freed? Don't send for the plumber unless your own efforts fail. Try a strong solution of potash or soda if you suspect that grease or dirt be the cause of the annoyance, and use this solution as hot as possible. Wherever it is possible, employ the pressure of the ordinary water supply, screw a hose to the nearest tap, and fix the other end as tightly as possible into the opening of the waste-pipe by means of rags; now turn the tap gradually until the full pressure is applied and let the

force of the water act upon the stoppage. It will very soon yield. If no water-pressure is available a force pump must be used; but this is never so certain nor so easy of application.

PRESERVING LUSTER OF LINOLEUM.—The use of linoleum runners for stair carpets, halls, kitchens, rooms, etc., is increasing rapidly, because they offer great advantages as regards durability, convenience, and sanitary conditions. To have the linoleum like new all the time, it should be washed with equal quantities of milk and water every two or three weeks; after about three or four months, it must be rubbed with a weak solution of beeswax in spirits of turpentine; also linseed oil is used occasionally. The runners, if treated in this manner, remain clean and lustrous all the time, and look as if new.

## MEDICAL.

### SOJOURN OF ALIMENTS IN THE STOMACH.

The time required for the digestion of vegetable food in the stomach was ascertained by H. Croce by means of experiments performed on his own person. At determined intervals after meal he extracted specimens by means of the stomach-probe and subjected them to examination. In this way he found that the following vegetable aliments remained in the stomach:

	Hrs.	Mins.
Apples.....	1	55
Cherries, cooked.....	2	—
Cherries, raw.....	2	15
Potatoes, cooked.....	2	5
Potatoes, mashed.....	2	30
Cauliflower, cooked.....	2	20
Brown bread.....	2	30
Horseradish.....	2	40
Biscuits.....	2	50
Turnips.....	3	—
Spinages.....	3	30
Green beans.....	3	55
Lentils and peas.....	3	—

One hour after digestion had commenced, the contents of the stomach were, almost in all cases, tolerably liquid and this condition continued increasing. The disappearance of the gastric contents seemed to be realized in slow progression, and not, as supposed by Ricket, all at once.

Rosenheim gives the following tabulated statement on the times the following aliments remain in the stomach:

	Hrs.	Mins.
Rice.....	1	—
Eggs, raw.....	1	30
Deer meat, cooked.....	1	45
Milk, raw.....	2	—
Bread.....	2	—
Beans.....	2	30
Potatoes.....	2	30
Oysters.....	3	—
Fish.....	3	—
Eggs, soft boiled.....	3	—
Roast pork.....	4	—
Roast beef.....	4	—
Brown bread.....	4	—
Cabbage.....	5	—
Eggs, hard boiled.....	5	—

A. Eichenberg studied on his own person by means of the stomach-probe the sojourn of aliments in the stomach when hydrochloric acid, alcohol and other stimulants are added, and found: That hydrochloric acid always accelerated digestion by about 10 per cent; that small quantities of alcohol (as high as 50 ccm. of the alcoholic liquid) also accelerated digestion, while larger quantities (1 liter of wine or beer) neither accelerated or retarded it; that mustard accelerated distinctly, while pepper and condurango accelerated it in a small degree; that rhubarb tincture did not accelerate it at all, and that water (1 1-2 liter) retarded it in a noticeable degree. — *Internationaler Pharm., General-Zeitung*.



## A COUPLE OF PATENT MEDICINES.

## SHILOH'S CONSUMPTION CURE.

Shiloh's Consumption Cure is put up in a green panel bottle, with an extra long neck, the bottle holding scant three fluid ounces of a thin, syrupy, semi-opaque greenish-brown liquid, with pronounced taste of chloroform. Reaction slightly, but permanently acid. This composition, as we examined it, shows:

Muriate of morphine.....	3 grains
Muriatic acid.....	3 minims
Fluid extract henbane.....	2 drams
Fluid extract ginger.....	3 drams
Fluid extract wild cherry.....	3 drams
Diluted alcohol.....	3 drams
Chloroform.....	1 dram
Essence peppermint.....	30 minims
Syrup of tar.....	3 ounces
Simple syrup to make.....	8 ounces

Each bottle carries a wrapper and elaborate circular around it, and the whole wrapped in a red-lead colored paper, which states that it is warranted to cure consumption, coughs, colds, croup, hoarseness, asthma, and all lung diseases. It is prepared only by B. C. Wells, Leroy, N. Y., after a prescription of Dr. Brutus Shiloh. Price, 50 cents. No cure, no pay. Such a preparation, if made without secrecy, should be worth just about half the price it is sold at, both at wholesale and retail.—*New Idea*.

## SEVEN SEALS, OR GOLDEN WONDER.

Ether.....	4 parts
Chloroform.....	6 parts
Camphor.....	4 parts
Oil of peppermint.....	2 parts
Tinct. of capsicum.....	35 parts
Alcohol (90 per cent).....	50 parts

These proportions are approximate.

This preparation is recommended for "cholera morbus, rheumatism, warts, corns and all diseases."—*National Druggist*.

## TO MAKE PETROLEUM NON-EXPLOSIVE.

Kirsch (*Produits chimiques de Belgique*) claims that the following mixture will render petroleum non-explosive:

	Per cent.
Aniline.....	0.30
Sulphate of lime.....	0.92
Sulphate of magnesium.....	0.22
Bicarbonate of soda.....	2.77
Chloride of sodium.....	92.81
Sal ammoniac.....	1.84
Water.....	1.34

He says that this mixture will not diminish the illuminating power of petroleum, if "a small but sufficient quantity" be added.—*Condensed Extracts*.

## NOSTRUMS.

The manner in which advertised nostrums are treated in the German Empire is exemplified in the following from *Condensed Extracts*, translated from *Der arztliche Praktiker*, December 1, 1892:

## PUBLIC NOTICE.

In the daily press Mrs. — is advertising her skin tonic as a remedy for various diseases of the skin.

This secret nostrum consists of a solution of chloride of mercury (sublimite) in water, with a little glycerine, and is slightly perfumed. It is sold in bottles containing 210 cubic centimetres,

at the price of 11 marks (\$2.75), while the real value of the contents of a bottle is about 5 pfennig (1 1-4 cent).

The above is hereby made known as a warning to the public.

(Signed)

FREIHERR VON RICHTHOFEN.

President of the Police Department.

Berlin, Nov. 14, 1892.

## A BRITISH DECISION IN FAVOR OF SALICYLIC ACID.

Our English contemporary, the *Mineral Water Trade Review*, is fairly hugging itself over a decision in one of the British petty courts against the public analysts on the subject of salicylic acid adulteration. Notwithstanding this decision the fact remains that the best physicians have declared that salicylic acid is harmful to human digestion and therefore properly considered an adulterant. With these remarks we reproduce the article:

Manufacturers of beverages containing sugar will regard a recent decision of the justices at the Great Marlow Petty Sessions with the greatest interest. The case was a prosecution, under the Sale of Foods and Drugs Act, of a grocer, for having sold, "to the prejudice of the purchaser," some raspberry wine, "adulterated" with salicylic acid, and colored with Brazil wood. The defendant had the courage to defend the use of the antiseptic, and succeeded in proving, moreover, that the beverage was colored with cochineal, not with Brazil wood, and is to be congratulated on conducting his defense so intelligently and successfully. Eminent counsel and experts of authority were engaged to contest the position assumed by the public analyst, and the result justified the expense. It is to be hoped—since abundance of evidence can now be obtained for proving the harmlessness of salicylic acid—that manufacturers will not in future tamely submit to be fined as they have done so frequently in the past.

It is evident that the Sale of Foods and Drugs Act requires considerable modification; because it is impossible for a purchaser to obtain an article of the nature and quality demanded if he is ignorant of the ingredients which it is necessary to include in the manufactured product in order to make it salable—in other words, if he is ignorant of that which he demands. As the *Brewers' Journal* said, in commenting upon this case, "We do not question the right of public analysts to protect the public against adulteration; indeed, in this respect we think they have not at present sufficient scope or power; but we protest against interference of a grandmotherly kind, which, if persevered in and successful, would result in deteriorating rather than improving the quality of saccharine beverages, and of hampering the manufacturer in the pursuit of his legitimate operations."

It needs not argument to convince any intelligent purchaser that a sweetened substance is prone to after-fermentation, unless particular precaution be taken to arrest or prevent such change; and it is further apparent that once fermentation of an uncontrollable character has commenced in products containing sugar, the effect is apparent in objectionable acidity, flavor and odor. If the material employed to arrest fermentation exercises the slightest injurious action upon the health of those consuming it, one would naturally defend the action of the public analyst in attempting to prohibit it. But if it can be proved that the employment of such antiseptic really allows of the purchaser's obtaining

an article of the nature and quality demanded, instead of a beverage rendered putrid by the agency of after-fermentation, then we do not conceive that the authorities have any right to intervene as between the manufacturer and the proper conduct of his business.

The harmlessness of pure salicylic acid was alleged by all the experts called by the defense in the case in question, amongst whom were Professor W. Lascelles-Scott, Dr. John L. W. Thudichum, and Dr. Bond; indeed, the last-named stated that he had taken as much as ten grains of this substance daily for a month without experiencing any bad effects.

With such evidence before them, and bearing in mind the result of this test case, manufacturers need not hesitate in employing salicylic acid as anti-ferment in the manufacture of beverages containing fermentable matters. But, as we have already stated, the acid must be pure to be harmless. There is on the market still a good deal of impure salicylic acid, contaminated with certain substances—bye products in the manufacture, which have a harmful effect on the human economy—which hitherto have been difficult to eliminate. The makers, however, are getting over this difficulty now, and, considering the fact that Professors Dunstan, Charteris, and Messrs. Bloch, Helbing, Passmore, and other scientists have sufficiently demonstrated that artificial salicylic acid is absolutely identical with the product which is obtained from oil of winter-green (*Gaultheria procumbens*), it ought soon to be possible to produce this antiseptic at very much cheaper rates.

The Marlow decision marks an epoch in the progress of the trade; it should do much towards dispelling the popular prejudice against the employment of so-called drugs. It certainly decides that salicylic acid is not an adulteration, but a harmless ingredient when used in the preparation of saccharine beverages; and it proves that justice can be obtained in accordance with the canons of common sense, provided the case be fairly put and intelligently contested.

## TO DETECT MINERAL ACIDS IN VINEGAR.

A few drops of a solution of methyl violet dropped into a small quantity of vinegar in a white plate, will, if nitric acid is present, produce a blue discoloration. If muriatic or sulphuric acid is present a green tint is produced.

A GOOD REASON.—Teacher—How many bones have you in your body, Jimmie?

Jimmie—Two hundred and nine.

Teacher—But the other pupils have not so many.

Jimmie—Well, they ain't had fish for dinner, like me.—*Pharmaceutical Era*.

ONE ON THE DOCTOR.—"Doctor," said Pat to Dr. Marks of the St. Louis City Hospital, "I hain't had no feelin' in this yere leg for twenty years."

"Well, let's see it," replied the doctor. And Pat, pulling up his pants, exhibited a wooden leg.

"Young Timberwheel has a suit of clothes for every day in the week."

"I never see him wear but one."

"Yes, that's the suit."

Occasionally when a man is getting down in the world the police justice thinks it will help him to send him up.



## MISCELLANEOUS.

### STAMP COLLECTIONS.

#### AN EXPENSIVE FAD—WHO INDULGE IN IT?

Of all the hobbies of this modern day epoch stamp collecting is without doubt that ridden most. Among the young it has its army of followers. All ages, as well as all degrees of wealth, are represented in the alluring net it casts about its devotees. Long ago the hobby was dignified into a science. As timbrology, making use of timbre, the French word for stamp, it has evolved into a full-fledged "ology." The prices sometimes paid for these bits of paper are astonishingly fabulous to the uninitiated. For a rare stamp—cancelled or uncanceled—to bring over \$100 at a stamp auction is not an unusual thing. Sometimes the price is very much higher, running perhaps as high as \$1,000.

During the next two months collectors that are known as "advanced," that is, who have passed the schoolboy stage, will have endless food for discussion in talking over the treasures of what is said to be the finest collection ever offered at auction in this country. This is the De Coppet collection, made up entirely of stamps from countries of the Western Hemisphere. It is distinctly an American collection, and represents the work of Frederick De Coppet, a well-known banker and member of the New York Stock Exchange. The collection includes 18,000 different stamps, divided for auction purposes into 2,800 lots, and is expected to sell for a total aggregate of not less than \$50,000. The sale will be the longest drawn out of its kind ever held, taking in the evenings of April 3, 4, 5, 13, 14, 24, 25 and 26. It will be in the Real Estate Exchange salesrooms on Liberty street, with Charles Gregory acting as auctioneer.

Some interesting particulars were learned from Mr. J. W. Scott, who has charge of the arrangements for the sale.

The gem of the collection is a stamp of British Guiana, issued in 1850. It is of a two-cent denomination, circular in form and printed on rose paper. It is cancelled and has been neatly mounted on a piece of rose-colored paper cut square. The snug sum of \$600 is the reserve price placed upon it by Mr. De Coppet, and bidders must go higher if they want it. Still it is worth the price asked, if the remarks printed in the catalogue which has been prepared for the sale are accepted.

The catalogue says: "In our opinion this is the rarest stamp of any regular government issue in existence, there being only six specimens known, and only three in the hands of private collectors, the three specimens of the Taping collection being now in the British Museum. The fourth specimen is owned in France and the fifth in England. We can only hope that some one of the American collectors will see to it that it does not leave the United States. It was originally in the Caillebotte collection, purchased by Pemberton, Wilson & Co., and sold by them immediately to the present owner."

It is expected by Mr. Scott that this stamp will bring at least \$1,000. Though this is considered the gem of the collection, there are plenty of other rarities of interest to collectors of United States postage stamps.

There are three of the beautiful set issued by the government in 1869. The 15, 24, and 30-cent stamps of this set are each in two colors. On the 15-cent stamp is a copy of the painting in the Capitol at Washington of the Landing of Columbus; on the 24-cent, a copy of the painting, also

in the Capitol, of the Signing of the Declaration of Independence, and on the 30-cent stamp an eagle surmounting a shield with a stand of flags on either side. In the case of the three specimens in the De Coppet collection, representing the three values just noted, a portion of the design of each is inverted—that is, the paintings and the stand of flags, respectively, have been printed upside down. The result is that these victims of the printing error are expected to bring big prices. The 15 and 24-cent will probably command \$60 to \$75 each, while the 30-cent is expected to sell for at least \$150.

In this connection it may be noted that there has never been a country yet which has printed stamps in two colors, where blunders have not occurred. Considering the neat price these United States stamps are expected to bring, an incident which Mr. Scott called to mind is not out of place. A friend of his, in 1869, when the stamps in question were issued, bought a hundred 15-cent stamps at the post office, paying \$15, their face value, for them. Later, he noticed something queer about their appearance, and examining them more carefully he found that half the stamp had been inverted on each. He didn't have the stamp fever, so he hurried with them back to the post office, and, turning them in, demanded another sheet of stamps which were all right. In after years, when he learned how few such stamps had ever reached the public and the high prices they were bringing, he had a deep and lasting subject for contemplation. Had he kept them until now, at the present ruling prices, he would have been something over \$5,000 the richer.

Some other rare stamps in the De Coppet collection are a 12-penny stamp of Canada, printed in black upon laid paper and issued in 1851, which is expected to bring \$150 to \$200; a triangular 4-shilling violet stamp of New Brunswick, issued in 1851, used as 3 pence, and still remaining on the back of an entire letter, catalogued as "something unique," and expected to bring in the neighborhood of \$100; and several reconstructed sheets of stamps of British Guiana and Zolima, each stamp on the sheet a distinct variety and each a rarity in itself. Some of the last-named sheets have had reserve prices placed upon them of from \$250 to \$800.

An unusual attendance of collectors and dealers is expected at the sale. Mr. Scott said that among others an order would certainly be received from the Duke of Edinburgh, who is a noted collector.

Philip von Ferrary, a son of the Duchess of Galliera, Italy, is expected to attend in person. He is the owner of a magnificent collection, on which it has been reported he has spent over \$1,000,000. His father amassed his great fortune in railroad building in Italy.

At least six collectors have so far signified their intention of coming from Europe especially to attend. The date of the sale was purposely put late into the season so that foreign buyers might, if they wished, take in the World's Fair at the same time.

It was reported recently in the English papers that the Prince of Wales had bought a stamp album, though whether for himself or as a present for some one was not stated. In Europe timbrology is peculiarly virulent. Rich and poor alike collect.

It is said the Czar of Russia is a collector. So is the little Queen of Holland.

The Rothschilds are or have been collectors. Sir Daniel Cooper, Prime Minister of New South Wales, is a leading foreign collector. So is Frederick A. Philbrick, Q. C., whose daughter was

nearly murdered some months ago. Another English collector is the Earl of Kingston. The latter will either be present or be represented at the sale.

The rich and prominent in this country are not backward as collectors. At various times Mr. Scott has had offers from the Vanderbilts, the Gallatins, Garretts of Baltimore, Mrs. Bradley-Martin and others, while he has sold stamps personally to Gens. Grant and Sherman and to Mr. Blaine. In some of these cases the stamps, doubtless, were for the children of the various families.

### NOTES ON NON-INTOXICATING BEERS.

#### A HINT TO HEALTH AUTHORITIES.

By J. T. Norman, F.C.S.

As these non-intoxicating beers are being largely introduced and sold here, we republish the following notes from the *Mineral Water Trade Review* and would call the attention of Sanitary authorities and Board of Health to the clause about antiseptics.

There is little doubt that the English palate is rapidly acquiring a taste for non-exciseable beers, that is, fermented hop liquors which contain under 2 per cent of proof spirit. No stronger evidence of this can be quoted than the fact that many brewing firms are beginning to cater for the trade in these beverages; they can afford to ignore no longer the palate tendencies of the temperance section of the community and, it may be added, of a very great many of their own legitimate customers. A writer in the *Brewers' Journal* has even gone so far as to call hop ales, etc., "Competition Beverages;" which is admitting a great deal from the brewer's point of view. He considers it "mere stupidity even for capitalistic firms to ignore the subject any longer, especially as some of these beverages are openly sold in their own houses."

Whatever the old-fashioned herbal beers may have been, the modern non-intoxicating beer cannot, when well made, be regarded as nauseous, for in producing them so as to bring them down to the level of the excise requirements so much scientific skill is necessary, that, for the most part, they are sound, brilliant, and possess good keeping qualities, whilst a clean flavor is one of the first essentials, for the public insist upon a "pleasing palate." To produce liquors possessing these qualities necessitates a sound knowledge of the principles of brewing; indeed, we would recommend no one to attempt the exploitation of the new popular taste who is unacquainted with the ways of fermentation. The more the process is made to assimilate to that by which exciseable beers are made the greater the probable success.

It may be seasonable, perhaps, to call attention to a few points in the manufacture of "non-intoxicating beers," which may be of service to those who are about to embark in the business. In the first place, the yeast should be of the slow-fermentation type, if the other kind be employed disaster will assuredly follow.

According to Mr. Faulkner, a well-known brewing expert, the original gravity of hop ale, or hop bitter beverages, etc., should closely approximate to 10·22, and they should carry in each thirty-six gallons bulk about twenty-one pounds of solid matter. The latter will consist, according to the nature of the beverage, of sugar, hops, or more strictly speaking hop extract, ginger, horehound, etc., and some strong antiseptic like saccharine, salicylic acid, or phylax.

The antiseptic should never be of the sulphite type, but its use should by no means be restricted, otherwise difficulties in connection with after-



fermentation will set in and cause trouble and loss.

The great feature of the manufacturing process is the avoidance of the formation of an excess of alcohol, so that the goods may not be exciseable by the Inland Revenue authorities. Both skill and attention are necessary to keep the percentage of alcohol below 2 per cent. This fact controls the original density of the liquor even more than the question of cost does; whilst its possibility is governed by the moderate collecting gravity of the dilute syrup, by the exercise of great caution during fermentation, and by such devices as limiting the intermixture of syrup until fermentation itself is complete.

Some firms encourage a slight secondary fermentation in cask or bottle in order to ensure the liquor when decanted being brilliant, sparkling and creamy-qualities which are pleasing to the eye and therefore attractive to the taste. Other firms, on the other hand, will prepare to entirely prevent bottle fermentation by primary filtration of the fermented liquor, this being followed by carbonation, that is to say, the saturation of the fluid with carbonic acid gas under pressure.

Speaking of brilliancy reminds us that gelatine finings may only be employed in this manufacture to a very limited extent, for they cannot be regarded as really safe when turbidity happens to be either apparent or persistent at the close of the fermentation process.

The sugar syrup must only be subjected to a very limited fermentation at a temperature of 68 degrees. We have already said that the yeast must be slow. It is employed very freely, and is well raised up with the liquor, the surface of which is skimmed every twelve hours or more frequently, if necessary, during the fermentation. At the same time the temperature is gradually reduced, so that spontaneous clarification may promptly follow. The percentage of alcohol at this stage should never be greater than 0.8.

If a definite tonic flavor be required it may be "naturally" imparted by passing the syrup through a filter bed of spent hops that have been thoroughly washed, using a hop-tack as the filtration vessel.

These notes are only fragmentary, but we shall hope to supplement them with others as the trade grows, and knowledge of the best condition of manufacturing these new beverages is increased.

#### ARE MIRACLES UNNATURAL?

Some time has elapsed since the outside world, inhabited by most of mankind, was stirred by details of the striking cures reported to have occurred at Lourdes. We do not intend or even desire to dispute the reality of many if not all such, though we may be allowed to question the veracity of even official reports concerning them. It is however, we consider, a most unfortunate fact that the minds of so many persons are unable to regard occurrences of this kind as other than subversions of the law of nature. The mere phrase is in itself destructive of all rational ideas on the subject, and introduces doubts, difficulties and disunion among the relations of the physical and spiritual worlds which a multitude of other circumstances show to be similar and consanguine parts of the same Creator's handiwork. It implies no discredit to the character of religion, and no reduction of their own marvelous reality, that miracles should be found capable of natural explanation. The marvel of success remains as great as ever, nay, is enhanced by the wonder of simplicity disclosed in its method, while faith in what was once a mere dogma becomes both purer and stronger when that dogma is shown to be

consistent with the rest of the universal order. The "miracles" which in our day attract, not unreasonably, the devout in this and other countries are neither novel nor irregular. Such happen daily in the experience of practitioners. The performance of some has even the shroud of mystery still about it, while it answers to the tests of scientific treatment. Others are more manifest. Still as of old, "the blind receive their sight, the lame walk, the lepers are cleansed, the deaf hear;" nay, some who to all appearance have trepassed for a brief space within the boundary line of death return to earthly duties, and we know something of "how and why." Should we then regard miracles as opposed to the law of nature, and not rather as facts illustrative of that law, and though once unknown to us never unknowable, and always related in the presiding Mind of the universe with reason, will, and order?—*London Lancet*.

#### OIL AND GAS HEATERS.

##### DAINGEROUS IN UNVENTILATED ROOMS.

The season has arrived when a large number of persons will make use of oil or gas heaters, for a few hours a day or longer, to warm the rooms they occupy. Such use may not be very harmful if proper precautions are constantly taken. A great deal of harm to bodily health may result from ignorance, or thoughtlessness and neglect. It must be remembered that the products of the complete combustion of oil or coal gas are carbonic acid gas and watery vapor. Carbonic acid gas (carbon dioxide), when it composes from twelve to fifteen per cent or more of the air in a room, produces the death of the inmates by suffocation. When cold it is heavier than pure air, but heated by the warmth it has acquired in its production, it floats into and is diffused in the surrounding atmosphere. When the combustion of coal gas is not complete, then the constituents of the gas are in part set free and are more poisonous in proportion to the amount not ignited, and which is thereby mixed with the breathing air in the room.

One of the most poisonous constituents of coal gas is the carbonic oxide (carbon monoxide), which does not cause suffocation in the same way that carbon dioxide does. The carbonic oxide is inspirable and reaches the blood through the lungs and acts directly upon the constituents of the blood, decomposing their substance and destroying their vitality. The absolute requirement of some method of escape of the carbonic acid gas and the unconsumed constituents of coal gas, and the ingress of outdoor air, in other words, proper ventilation, in and of, all rooms heated by gas stoves, or where cooking is done by gas and large quantities consumed, will be evident. While the oil stoves may be less dangerous, they are not free from danger in close apartments.

If water-gas (so called) constitutes a large proportion of the illuminating gas used, the danger from the unconsumed gas is greatly increased. I read, only a few days ago, an account of the death of a young man in a bath-room, where he was found dead in less than half an hour after entering. The water had been heated by a gas apparatus, and the bath-room had no ventilation except the cracks around the windows and doors. It was that account that reminded me of the need of "precept upon precept," and "line upon line" in regard to the harm to individual health, which, though not perceivable at the time or times of exposure in unventilated rooms to the products of unburned gas, would, nevertheless in process of time, lay the foundation of serious disease, and might, not infrequently, cause much more im-

mediate sickness. These warnings have been repeatedly given in the pages of the *Monthly Bulletin*, and it seems quite needful that the notes of alarm should continue to be sounded.

The large consumption of gas for the illumination of rooms which have no sufficient outlet for the polluted air to escape, and for the inflow of pure, fresh air, has the same general result in proportion to the deficiency of ventilation.

This is not saying that gas or oil should not be used for illuminating, cooking or heating. Kerosene is cheaper for some purposes than wood, and cheaper than gas for lighting; gas is quite as economical as coal for temporary purposes, where heat is needed. The portability of oil and gas stoves for heating or cooking make them exceedingly convenient in many places. But they should not be used in closed rooms. Not that the doors and windows should be wide open when the heating stoves are used, but that sufficient ventilation for change of air be provided for, which need not diminish the comfortable and healthy temperature of the occupied apartments.—*R. I. Bulletin*.

#### PAPYRUS AND PAPER.

In ancient Egypt the papyrus plant grew in enormous quantities. The roots of it were used for food, the bark for ropes, baskets, mats, and even for river boats; the fine skin of the inner bark was glued together in strips and employed as writing paper. The word "paper" is, indeed, our modern form of the word "papyrus."

Now this fine skin or rind was imported into Rome and by the Romans was called "liber," and when the papyrus was made up into a book, it, too, was known as a "liber." The case in which such a collection of books was kept was termed (in low Latin) a "libraria," whence, through the French "librarie," we have our English "library."

The Greeks called the plant itself "byblos;" and when among them the papyrus became a book, the latter was termed a "byblos." The earliest Christian writers, using the Greek language, spoke of the Holy Scriptures as "biblia," the books; and later, when the Scriptures were regarded as a single work and not as a collection, the plural form "biblia," the books, was adopted as a Latin singular, "biblia," the book. With slight modification, "biblia" spread into all modern European languages, and appeared in English as "the Bible" some time after the Norman Conquest.

So the very word "Bible" takes us back to those dark days of the oppression, when as yet the great Lawgiver was but a weeping babe in the water-flags, and the annals of the Jewish people had not got beyond the second chapter of Exodus.

Nor is this the only instance in which we find the papyrus associated with the tyranny of kings and the sufferings of a nation.

One remembers how on the 15th of June, 1215, King John signed the great charter of the constitutional freedom of Britain, and how, after he had signed it, he flung himself in a burst of fury on the floor and gnawed the straw and rushes with which the floors of those days were strewn. Now what was "charta?" Originally nothing more or less than a sheet of papyrus strips glued together as writing paper.

So it is to the Egyptian reed that we owe our "charters," "charts," "cards," "cartes" (blanche and de visite), our "cartoons," and our "cartidges."—*Good Words*.

"Where is this town 'Montana' that they are making a statue of Ada Rehan for?" asked the woman who never gets things straight.



## AN ACCOMMODATING EDITOR.

Took all things on subscription—from chickens down to cheese,  
From wild duck down to whippoorwills an' wood;  
And at last he took a coffin—for he wasn't hard to please—  
With a doctor—an' they settled him for good!  
—*Atlanta Constitution.*

**THE PERFECT FEMALE FORM.**—Following are the measurements of the perfect female form as given by a woman eminent in the science of physical culture: Height, five feet five inches; bust measure, thirty-one inches; waist, twenty-six and one-half inches; hips, thirty-five inches.—*Amer. Jour. Obstetrics.*

**A CONFLICT OF AUTHORITIES.**—Grace Ingle—Have you decided yet whether you shall accept Mr. Lyonanoff?

Mary Mainso—No—o; Bradstreet says I may, but Dunn says I mustn't.

When our street cars are propelled by ammonia the passengers will probably be furnished with sal volatile gratuitously.

"I read Schopenhauer in German."

"Why, I never knew you understood German."

"I don't. But Schopenhauer is no harder to understand in the original than in English."

Mrs. Hoppin—I am just going out to buy the trimming for my new dress.

Mrs. Styles—What is the dress going to be made of?"

Mrs. Hoppin—That depends on how much money I have left over.

"Now, children, you must be very good to-day, for your father has hurt his hand and if you are naughty he cannot whip you."

"Do you play cards?"

"No."

"Billiards?"

"No."

"Do you bowl?"

"No."

"Go to the theatre?"

"Never."

"Then I am sure you can lend me five dollars."

When you see a man that's very much inflated, you musn't jump at the conclusion that it's because his wife blows him up.

When a call for the police patrol is turned in, hoodlums do not care to wait for the wagon for fear they'll all take a ride.

The World's Fair souvenir dollars are very acceptable Christmas presents. So are the other kind.

The Newfoundland dog that went over Niagara Falls and lived through it will have his day until his days are ended.

"Does it look well for a minister to ride a bicycle?" is asked on the Columbia Bicycle Calendar, and the answer given in the words of Rev. A. S. Mowbray, Newport, Del., is up and coming: "It depends upon the age to which he belongs. If he is a member of a past age he is manifestly out of place. Given a modern man and a modern invention—they fit."

First Lady—I don't see how you can afford to let your lodgers owe you several weeks' rent?

Second Lady—Well, it's like this. When they are in debt it affects their appetites; they never like to ask for a second helping, so it comes cheapest in the end.

He who insults me to my face can yet be an honest man and my friend; but he who praises me on all occasions is a fool who despises me, or a knave who wishes to cheat me.

She—So a sinecure is a position in which a person gets the salary another earns.

He—Precisely, my love.

She—That's the kind of a job I want.

He—You have it, dearest.

It was Victor Hugo who said of another French author that he "invented a new shudder."

Just as soon as a young man finds that he can't have a girl he begins to imagine that he can't do without her.

A live antediluvian frog has been found in a coal mine: An antediluvian man may yet be discovered, and it is safe to say he will find some familiar methods still in vogue on the earth.

"Give me some hope. You don't think I'm too old for you, do you?"

"No-o. Everybody says it's a case of January and May, and there's only three months difference between them, you know."

If anybody can make a shorter song than this, the *Lynn Item* would be pleased to publish it:

We three  
Brothers be  
In one cause;  
Bill puffs,  
I snuffs,  
John chaws.

**AN UNPARDONABLE SIN.**—First Village Boy (with sled)—Old Mrs. Muggins has to go to the poorhouse. Why don't the folks around town take care of her?

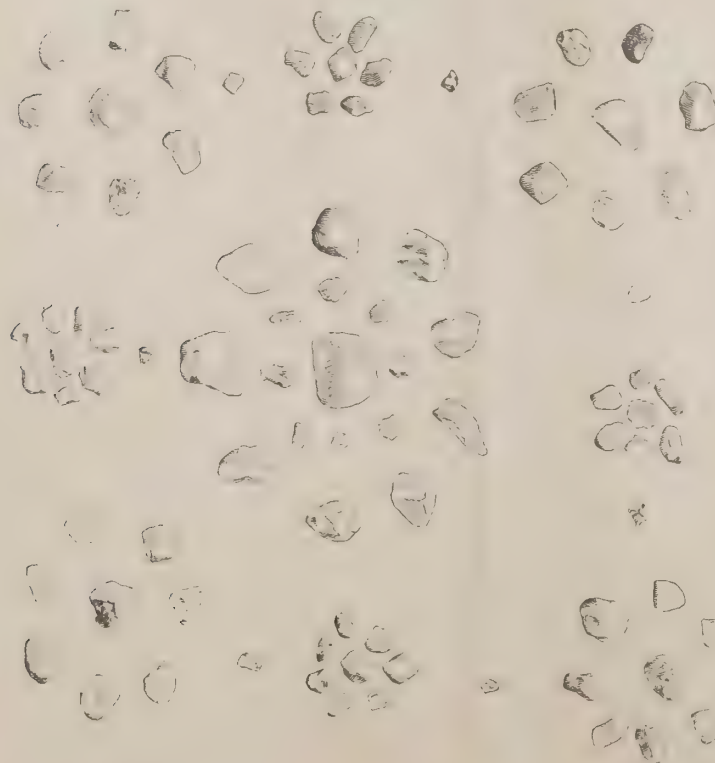
Second Village Boy—Mebby when everybody was children she put ashes on the hill.

**A CLEAR EXPLANATION.**—Merchant to his son whom he is sending on a mission to an influential friend: "This gentleman will treat you very kindly. You may tell him that I am your father and if you find it necessary, you may add that you are my son."

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alambic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-high specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

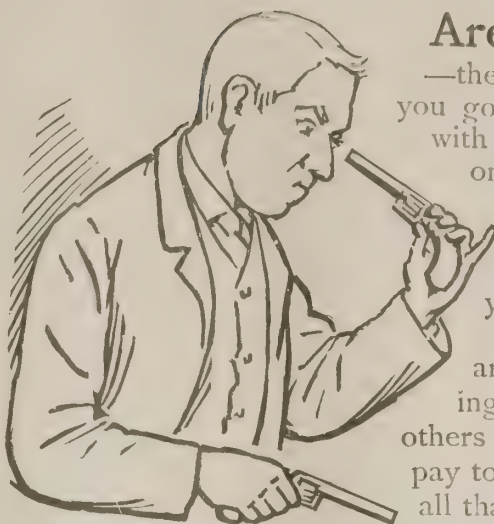
THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## SCIENTIFIC ACHIEVEMENT.

The progressive character of modern pharmaceutical science is in nothing better demonstrated than in the knowledge we now possess of processes and means for conservation of potencies in drugs which were hardly even suspected as existent by pharmacists of a score of years ago. Taking up for study a simple, supposably well-known, as possessed of certain well-defined properties, the modern scientist finds that by new methods of treatment he evolves from it a whole range of products, widely varying in character, hitherto occult. In some cases this has been done by elimination of one or another of mutually neutralizing or rather balancing properties, which as combined naturally in the crude original form gave no indication of their potential presence. Oftener, however, remarkable results have been attained by the discovery of means for arresting and retaining properties so volatile that by the old and crude methods of manipulation they had been dispelled and in almost every instance those evanescent principles, which might well be characterized as the spirit imprisoned in the gross matter of the drug, were by far its greatest values. An illustration of this and as good a one as could be cited is afforded by the new scientific process for extracting the medicinal properties from sar-



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340

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—the imitations of Pearlina? How are you going to find out? A few washings with them won't show any damage. It's only after some months, when your clothes go to pieces suddenly, that the danger can be seen and proved. Are you willing to risk your own clothes in the experiment?

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Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

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"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

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saparilla root. The old method, by means of heat, was more rapid, infinitely cheaper and easier, but the resultant product was comparatively valueless as the delicately volatile properties which were dispelled were precisely those principles most efficacious for the specific use, as an alterative of the blood, for which the drug was prescribed. Some little virtue it retained but so little that physicians began to question very seriously whether it was worth employment. The discovery of a cold process by which the volatile principles were thoroughly extracted from the root and perfectly retained, made a radical change in that view, and instead of being longer deemed of questionable merit it was recognized—when prepared by the cold process only—as one of the most valuable alteratives. The cost and slowness of the cold process and the fact that it can only be profitably employed when dealing with enormous quantities, preclude its general use, but one famous establishment, that of J. C. Ayer & Co., of Lowell, Mass., employs it altogether in making Ayer's Compound Extract of Sarsaparilla. The heat process is still resorted to in the making of other sarsaparillas, which is one reason they are of so little value, however much they may be vaunted by their manufacturers. The alterative effect of Ayer's Sarsaparilla is heightened by the addition of cold process extracts of yellow dock, and stillingia. There is no mystery about this medicine. For forty years its ingredients have been published to the world—are as much matter of popular knowledge as the fact of its being the only perfect medicine of its class. In all this time there has been nothing to hinder other manufacturers from adopting its formula—except the facts that they could not afford the expensive mode of preparation it demanded and that the available supply of its most important ingredients—Honduras sarsaparilla and yellow dock—was monopolized by this firm. No other medicine cleanses the blood and regenerates the system like Ayer's Sarsaparilla.

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## BUSINESS NOTES.

## HOW'S THIS?

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## A CHEMICAL TRIUMPH.

Among the salutary achievements of modern chemical science a most important one is the preparation in such a way of Scott's Emulsion of Cod Liver Oil with Hypophosphites of Lime and Soda, as to prevent any unpleasant fishy flavor, while preserving and concentrating its healing, strengthening and pulmonic principles. This has been attempted in earlier preparations, but with very indifferent success. By the ordinary preparations the stomach of the invalid was too frequently nauseated and the end in view defeated, since the oleogenous principle unscientifically prepared and unmodified by hypophosphites, remained indigested in the stomach and consequently inert. For consumption, bronchitis, coughs, colds, scrofula, anaemia, marasmus or wasting away, it is incomparably fine. Medical and private testimony both go to show that the co-operative action of the phosphorous in the hypophosphites with the oil renders it a beneficial flesh producer.

## ENGLISH OPINION.

A writer in Herapath's London (England) *Railway and Commercial Journal*, of February 6, 1892, in an article on American Railroads, says:

"The railway system of America is vast. It extends 171,000 miles, which, compared with our 20,000 miles, is big."

After commenting at considerable length on the comparative merits of various American railroads he closes with this remarkable sentence:

"The New York Central is no doubt the best line in America, and a very excellent line it is, equal probably to the best English line."

## BOOK REVIEWS.

**TIPS TO INVENTORS:** Telling What Inventions Are Needed, and How to Perfect and Develop New Ideas in Any Lines. By Robert Grimshaw. New York: The Practical Publishing Company, 21 Park Row.

This is a guide to inventors—especially in electrical, chemical, metallurgical, railway and marine, textile, and printing lines, and has very "common-sensy" chapters on perfecting, developing and selling patents. There are given 168 pointers, the result of the author's personal

knowledge of needs on the part of manufacturers or consumers.

In lines connected with the making and use of leather, there are noted the desirability of producing leather which shall be as pliable as ordinary leather, and yet wear as well as rawhide; of better and cheaper imitation Russia leather, and of aniline black colors.

The book is by a man who has for many years acted as confidential expert for leading establishments, and who knows what they need and what they do not need.

We will supply it, postpaid to any address, for \$1.00; or it may be had direct from the publishers.

## LITERARY NOTES.

The publishers of the *National Magazine* have acquired the *Magazine of American History*, which was edited by Mrs. Martha J. Lamb until her death on January 3 last. With the February issue these two leading historical journals are merged into one, and the name, *Magazine of American History*, that of the older periodical, now in its 29th volume, is retained.

General James Grant Wilson, well known as an editor of important historical works, including Appleton's *Cyclopedia of American Biography*, will edit the new magazine, which is enlarged more than thirty pages.

**THE ARENA.**—The literary features of the *Arena* for February are a carefully prepared biographical sketch of the "Life, Character and Work of Charles Darwin" by the editor. A second argument in favor of Shakespearean authorship by Dr. W. J. Rolfe, the eminent Shakespearean scholar. A story by the Canadian poet, William P. McKenzie, entitled "Was It Prophecy?" and a poem entitled "The Minority." This number is rich in able discussions of vital social and economic problems. It contains a number of well-considered and timely religious papers, and some interesting psychological discussions, together with a very interesting paper on "Education and Character Building," by Professor Joseph Rodes Buchanan.

## STAR OF BETHLEHEM.

In a recent number of the *Astronomical Journal*, Mr. J. H. Stockwell combats the view taken by Kepler nearly three hundred years ago, that the Star of Bethlehem was due to the conjunction of Saturn and Jupiter, and suggests and advocates the view that it may have been due to the conjunction of the planets Venus and Jupiter. It was the beautiful phenomena presented by these planets when in conjunction last February that suggested an investigation into the periods at which they would have been in conjunction about the birth of Christ; and the inquiry shows that their geocentric conjunction occurred on May 8, 6 B. C. This is about fifty days less than two years before the death of Herod. If these calculations are correct, Christ was born as early as May, 6 B. C., and between that year and 60 B. C. there occurred but one Paschal full moon on a Friday, namely, on April 3, A. D. 33, whence it would seem that Christ was thirty-eight years old at the time of the Crucifixion.—*Literary Digest*.

A Chicago paper bids its readers not to be downcast at the prospect of an increase of the whiskey tax. It comforts them with the assurance that it will take a long time to work up the price of alcohol, burnt sugar, fusel oil and water.

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A man is satisfied to make a reputation for himself, but woman, bless her, wants to make one for everybody in the neighborhood.

**PAST VS. FUTURE.**—Miss Passy—I dread to think of my thirtieth birthday.

Miss Budd—Why, what happened?

**SURE OF IT.**—She—Then you'll take me for a drive on Thursday?

He—Yes; but suppose it rains.

She—Come the day before, then.

**REQUIESCAT IN PACE.**—Miss H.—What does al that Latin mean on old Rakely's grave?

Mr. V. (who knew Rakely better than he knows Latin)—He went the pace.

**INK ERASER.**—Take of chloride of lime one dram, soft water four ounces; shake together and let stand twenty-four hours, then strain through a cotton cloth. Mark it solution No. 1. Solution No. 2 is one dram of acetic acid to the ounce of water. For use wet the blot or ink stain with No. 2 and then apply No. 1 with a sliver or tooth-pick. When dry, burnish the paper with any smooth substance, and it is as good as new. This will not remove India ink nor printer's ink.

**THE BEST COSMETIC.**—No cosmetics are so capable of preserving beauty as the smile of good temper, and a desire to please. Our faces are formed, or at least changed from time to time, by the lives we live. One man tries humbly to obey the Ten Commandments, and in time the decalogue seems to be written on his honest face; another leads a hard, sensual, selfish life, and an observer of character, when he sees him the first time, will probably say to himself, "If God Almighty writes a legible hand, that man is a villain."—*The Quiver*.

**FEELING.**—Eleanor—Don't you think Miss Noyes plays with great feeling?

Tom (dryly)—Yes; she does seem to feel about for the notes a good deal.



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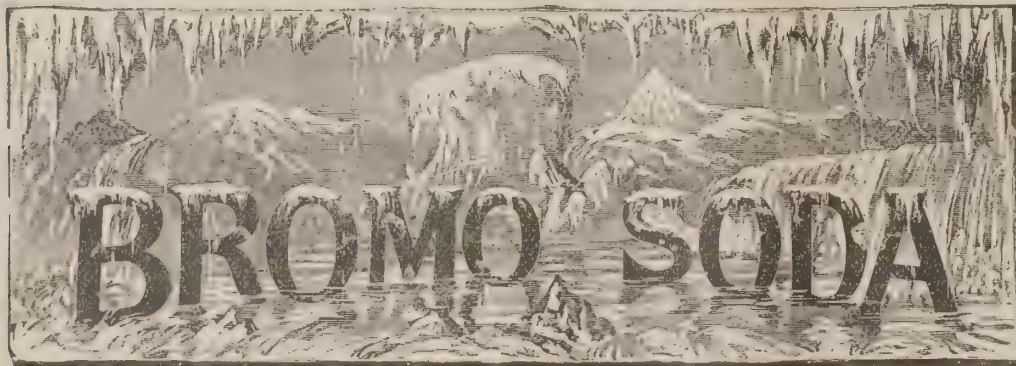
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## PATENTS

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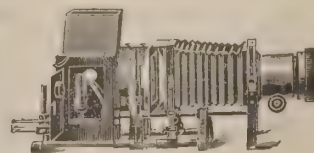
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PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

MARCH 1, 1893.

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### VICTIMS OF "CHRISTIAN SCIENCE."

If a child may be lawfully left to perish (as was the case recently in Haverhill, Mass.) from want of the known means of saving life, in case the child's natural protectors and providers choose to claim their neglect as an act of faith, it would seem to logically follow that slaughter of the innocent and helpless is covered by the same mantle. And that is precisely what was claimed in an instance which disgraced that Commonwealth and horrified the country not a great many years ago. There are just as many texts to be cited in proof that the prayer of faith will restore life as there are to show that it will heal disease. Accordingly, a pious fanatic, neither more nor less irrational than others whose zeal stops short of his extreme, deliberately cut the throat of his sleeping babe, in order, as he said, that an unbelieving world might be the witness to a miracle, like that which Abraham expected to work upon Isaac, when the father of the faithful prepared to offer up his only son in sacrifice. Perhaps casuistry can point out a distinction between the faith

that slays by willful neglect and the faith that, more mercifully, slays with the keen-edged knife.

The pretence that the interference of human law in such a case as that at Haverhill would be an undue invasion of parental authority or restriction of religious liberty is preposterous. Parental authority does not authorize brutality, and religious liberty does not include the liberty to break the laws of man in the name of faith in God. Hardly a day passes in which that noble organization, the Society for the Prevention of Cruelty to Children, does not rescue from the clutches of fathers and mothers some wretched child that is being beaten or starved or inhumanly neglected. As for "religion," the apostles, prophets, and elders whom a righteous law sent to prison in Utah for obeying, as they said, a direct "revelation" from Heaven, afforded examples much to the purpose.

### SOCIAL PROBLEMS.

A prominent clergyman, not long since declared that nowhere in the world is the retail trade more unfavorable to the poor than it is in this country. That there is a large measure of truth in this statement will be denied by no one familiar with the life of the very poor in the tenement-house districts. For, partly through necessity and partly through ignorance, they habitually make their purchases from day to day, and often from hour to hour, the result being, of course, that they pay enormously high prices for everything. Instead of buying a ton of coal for \$6 or less, they buy it by the scuttle or bushel at the corner grocery, sometimes paying at the rate of \$15 or \$20 a ton. Besides which, the coal for which they pay this monstrous price is often of the poorest quality. Flour, which they could get at about \$5.50 a barrel, they buy in the form of baker's bread at about \$15 a barrel. So it is with all the other staples of life. The well-to-do are able to get everything at bottom prices, because they are so situated that they can purchase a large quantity at once. But the very poor, who can least afford it, pay two or three times as much for similar articles, which are often inferior in quality. The same thing is true of the few luxuries which the poor sometimes allow themselves. When they wish to purchase these luxuries—a watch, or a bit of jewelry, maybe—they almost invariably patronize some little shop in the neighborhood, getting an article for which, as a rule, they pay 50 per cent more than they would for the same grade of goods in a larger establishment.

Evidently something should be done to remedy this state of affairs; but it is not easy to say what. It is useless to appeal to the retail dealer, for he is doing simply what all business men do—getting as much profit as he can out of his business. We may think that it would be to his interest in the long run to be content with smaller profits; but so long as he does not think so the question is settled, so far as he is concerned. The only remedy lies in so improving the conditions of life

of the poor that they will be capable of looking out for their own interests. Even the poorest family ought to have enough room to store away at least a ton of coal at once or to keep a barrel of flour. At present few can do so. This opens up the great question of tenement-house reform—a question which cannot be much longer ignored, because it vitally affects the well-being and prosperity of the whole city. If we not only allow but force thousands of people to live under conditions little better than those of wild beasts, we must not be surprised if many of them show themselves to be as little amenable to law as wild beasts. No matter how we explain it, there is something wrong with a social system that is content to let so many thousand human beings live in tenements that are themselves prolific breeders of ignorance, hopelessness and crime. But improved tenements would be of no avail, unless the poor are themselves improved. The most helpless aspect of their condition is that they are contented with it. They want nothing better, because they are intellectually conscious of nothing better. Any city missionary will testify that there are families which would violently resist a compulsory law of cleanliness. For instance, if they were forced to take a bath habitually they would feel that sense of shame that most people would feel in the commission of some foolish or discreditable act.

It is absurd to suppose that anything can be done with such people until they are morally regenerated. They must be educated, and the folly of such lives as they are now living made plain to them. Many attempts in this direction have been paid but few have been successful. We are not prepared to suggest any practical remedy or method. Such an one must be found, and he who finds it can become a benefactor to his race.

### OH! DO STOP THAT NOISE.

We have before spoken of the nuisance of clanging bells and howling whistles in large cities. A contemporary reiterates our arguments and enforces them by further illustrations. We quote:

Now that so large a part of our population is massing itself in cities, every question affecting good order, health, and comfort becomes increasingly urgent. If half a dozen persons under a single roof find it necessary and beautiful to treat each other with consideration, and to avoid all causes of mutual annoyance, much more the same need exist where ten thousand or a hundred thousand, a half million or a million, are trying to live together in one close-packed community. We cannot depend on the stringency of laws and regulations, except for the restraint of the very worst class, which is fortunately small. But decent and well-meaning people may easily fall in with customs and yield to conditions which cause, in the aggregate, more harm and misery than all the coarse forms of brutality and crime.

Let us now magnify what many will regard as a minor matter. To a man of healthy body and mind, there is a delight in all orderly activity, but who can enjoy mere confusion? Nobody



wants a silent city; but nobody can bear a perpetual rattle and racket. In the average American city, there is a great deal of unnecessary noise. It is a nuisance which ought to be abated. To the unavoidable clatter of hoofs, the rumble of carriages, and the murmur of voices, is now added the thunder-roll of cars, the jangle of signal gongs, the rasping of iron upon iron, and the scream of steam-whistles, all producing a storm of sound. The man from the country is stunned and bewildered at first, as if a cyclone raged in his ears; the man of the city thinks himself so used to it that he neither heeds nor hears.

Yet, what tympanum can bear unharmed all these sharp thrusts and hammerings? What nervous systems can endure these shocks and jars, without disturbance to its own rhythmic functions? To be sure, the less we "mind" such matters, the less they affect us, but to persons in delicate health or of sensitive frame,—of whom multitudes are produced by our strenuous, rushing, rattling civilization,—the doctors tell us that the injury may be serious, as it impairs or wastes one's vital capital, and thus lessens one's capacity of resistance to all forms of exposure. The risk of a soldier amid flying balls is often not much greater than that of a sufferer from nervous debility, whose duties or necessities may draw or drive him into certain streets, at certain hours of the day. And who can compute the danger to morals resulting to multitudes from this strain and distraction,—its effect on temper, and the increasing demand it makes for stimulants and narcotics?

If only some sensible and practical method could be found for reducing the amount or qualifying the character of ugly and hurtful noise, the city could well afford to pay hush money. One after another the items could be reviewed. There might be a choice of paving material; who shall say that we have yet exhausted the possibilities? As to the adjustment of mechanism in carriages and cars, one does not forget the almost noiseless working of some of the mightiest engines. And why must signal-gongs, conductors' registering bells, and all telephonic and electric contrivances, be harsh and ear-rending, when other bells are musical?

And can any real reason be given why the operatives in mills and factories, any more than the thousands employed in mercantile and other pursuits, must be summoned and dismissed, morning, noon, and night, by the hoarse and vulgar scream of steam-whistles? Do not ten millions of children find their way to school with habitual punctuality, by the guidance of household clocks? Or, if it be deemed for the common convenience and advantage that certain hours of the day should be more publicly announced, the resources of science and art, that have given us the Belgian chimes, could doubtless find some sonorous substitute for this "barbaric yawp."

As to the growls and roars, and other beastly sounds, contributed to the orchestra of dissonance by human lungs, it is likely that we must wait for the slow evolution of gentler manners. But the police might at least be charged with the suppression of noisy nocturnal rovers, who, nearly every night in the year, disturb the slumbers of the weary, and aggravate the sufferings of the sick. If a man is drunk and disorderly, they tumble him into the lock-up. Can there be no effective quietus for those who are not drunk and yet are even more recklessly disorderly?

**FINE WIRE.**—Platinum can now be drawn into wire strands so fine that twenty-seven twisted together can be inserted into the hollow of a hair.

### KIND WORDS.

We are getting quite accustomed to appreciative words. Our readers have been very kind and have freely commended the *AMERICAN ANALYST*. This not only from the United States, but from South Africa, Australia, China, Japan, Syria, Europe, Mexico, Central and South America. One lady in Japan writes: "The *AMERICAN ANALYST* is our preventive medicine for homesickness, we try every receipt in it, and while enjoying teaching American cookery to our Japanese servant and luxuriating in home dishes we find in its columns so much good common sense, served up in a popular interesting style that we impatiently await its arrival as much so almost as our home letters."

A gentleman in New Zealand says: "Oh, that all the ingredients for the good things you give receipts for could only be obtained here! Pray, do not make my mouth water for your 'corn' products. We have no corn, or, as we call it, 'maize' here. Nevertheless we like the paper."

An old subscriber now in Mexico says: "If your paper were only printed in Spanish I could get hundreds to subscribe for it. Am now compelled to translate it for the ladies in our house every fortnight. It is very interesting."

A missionary in Natal writes: "Please do not discontinue sending the paper, even if my subscription should expire. I will always remit. My wife and daughter say they would not like to be without it."

From China, a gentleman holding a high office sends us the *Hong Kong Telegraph* containing two columns extracted from our columns.

Last, though not least, a prominent lawyer in Central Iowa writes: "I like the *AMERICAN ANALYST* very much. Don't think I ever saw a better journal for the money."

Thanks to all, we will try still harder to please you.

## HOUSEHOLD.

### PROGRESS IN FOOD PRODUCTS.

The New Haven *Palladium* speaks of an evolution in all kinds of food products as follows:

Many of our active citizens will remember the beginning of the canning industry by the late Caleb S. Maltby of this city, who put up oysters in tins for his Western trade, and then added the canning of peaches to his business. Now meats, fish, fruits and vegetables are put up for market in this convenient form and the armies and navies of Christendom are largely supplied with food by American canners.

The evolution in breadstuffs is equally remarkable. The dainty snowflakes, spicy ginger nuts, and the manifold palatable dainties of the bakers are a delight to the eyes, and are wonderfully convenient tidbits for the family cupboard.

Behold, also, how American chemists have transformed the crude oil of cottonseed into articles pure, wholesome and nutritious, and how the component parts of cereals have been separated and treated for the sustenance and delight of mankind.

Even the clam has been drawn from its saline bed that its nerve-quickenings juices may be bottled for the merchant's convenience and his customers' enjoyment. In this form we know it as clam bouillon.

At Roman feasts all viands were served in hot chafing dishes.

### BOUILLABAISSÉ.

(THE MARSEILLES RECIPE.)

Garlic? A bit perhaps, merely to justify  
The old tradition;  
But just the tiniest shred—so small you might deny  
Its breath's suspicion.

Saffron? Yes, put some in; though of the saffron, too,  
Be not unstinted—  
And yet enough, so that your hands, when you get through,  
Are golden-tinted.

Fish? Most assuredly. But it must be first-class,  
Fresh, fine, *comme ça*—  
Lobster, and whiting small, the kind we call *rascasse*,  
Et cetera.

Oil? That is needed too; but let it not exceed  
A fair-sized drop.  
You must know how to pour one globule, bird's-eye bead,  
And then to stop.

Rosemary? fennel? thyme? fine herbs in general?  
Naturally;  
Tied in a little bag, clean, dainty, and withal  
Tempting to see.

Then let the whole thing boil. Meanwhile, of bread—  
fresh, mind!—  
Thick slices place.  
[Deprecatingly:]  
And if you've good luck you may produce a kind  
Of bouillabaisse.

But for the simon-pure, the grand, the marvellous dish,  
Beyond compare,  
Is needed more than herbs, and even more than fish—  
The Marseilles air!

—Henry Tyrrrell.

### RECEIPTS FOR INVALIDS.

#### INDIAN MEAL GRUEL.

One tablespoonful of fine Indian or oatmeal, mixed smooth with cold water and a salt spoon of salt; pour upon this a pint of boiling water, and turn into a saucepan to boil gently for half an hour; thin it with boiling water if it thickens too much, and stir frequently; when it is done, a tablespoonful of cream or a little new milk may be put in to cool it, after straining, but if the patient's stomach is weak it is best without either. Some persons like it sweetened, and a little nutmeg added, but to many it is more palatable plain.

#### MILK PORRIDGE.

Two cups best oatmeal, two cups water, two cups milk. Soak the oatmeal over night in the water; strain in the morning, and boil the water half an hour. Put in the milk with a little salt, boil up well and serve. Eat warm, with or without powdered sugar.

#### THICKENED MILK.

With a little milk, mix smooth a tablespoonful of flour and a pinch of salt. Pour upon it a quart of boiling milk, and when it is thoroughly amalgamated put all back into the saucepan, and boil up once, being very careful not to burn, and stirring all the time, to keep it perfectly smooth, and free from lumps. Serve with slices of dry toast. It is excellent in diarrhoea, and becomes a specific by scorching the flour before mixing with the milk.

#### SOFT TOAST.

Some invalids like this very much indeed, and nearly all do when it is nicely made. Toast well, but not too brown, two thin slices of bread; put them on a warm plate, and pour over boiling water; cover quickly with another plate of the same size, and drain the water off; remove the upper plate, butter the toast, put it in the oven one minute, and then cover again with a hot plate and serve at once.

#### SOFT BOILED EGGS.

Fresh eggs for invalids who like them cooked



soft, should be put in a pan of boiling water, and set on a part of the range, where they will not boil, for several minutes. At the end of that time they will be like jelly, perfectly soft, but beautifully done, and quite digestible by even weak stomachs.

#### BEEF TEA FOR THE SICK.

One pound lean beef, cut into small pieces. Put into jar without a drop of water; cover tightly, and set in a pot of cold water. Heat gradually to a boil, and continue this steadily for three or four hours, until the meat is like white rags, and the juice all drawn out. Season with salt to taste, and when cold, skim. The patient will often prefer this ice-cold to hot.

#### MUTTON OR CHICKEN BROTH.

One pound lean mutton or chicken, cut small, one quart water, cold, one tablespoonful rice, or barley, soaked in a very little warm water, four tablespoonfuls milk, salt and pepper, with a little chopped parsley. Boil the meat, unsalted, in the water, keeping it closely covered, until it falls to pieces. Strain it out, add the soaked barley or rice; simmer half an hour, stirring often; stir in the seasoning and the milk, and simmer five minutes after it heats up well, taking care it does not burn. Serve hot, with cream crackers.

#### CHICKEN JELLY.

Half a raw chicken, pounded with a mallet, bones and meat together, plenty of cold water to cover it well—about a quart. Heat slowly in a covered vessel, and let it simmer until the meat is in white rags and the liquid reduced one half. Strain and press, first through a colander, then through a coarse cloth. Salt to taste, and pepper if you think best; return to the fire, and simmer five minutes longer. Skim when cool. Give to the patient cold—just from the ice—with unleavened wafers. Keep on the ice. You can make into sandwiches by putting the jelly between thin slices of bread spread lightly with butter.

#### LAUNDRY HINTS.

TUBS, WRINGERS, BOILERS, WASHBOARDS, CLOTHES-BASKETS, FLAT-IRONS, SPRINKLERS, LAUNDRY IRONING STOVES AND IRONING TABLES.

By Martha McCullough Williams in *Baltimore News*.

Happy indeed the house, the housewife, that can boast a laundry.

Nearly always, however, through either the exigencies of space or economy, the family washing is done in the kitchen—always to the great detriment of household comfort and convenience. Without reform in domestic architecture this must be the rule. Also it is only the exceptional woman who can know the luxury of tubs set where there is light and air and not against a blank wall; of a boiler that needs not to give way on the stove for breakfast or dinner; of an ironing table sacred to its proper use—to say nothing of such things as an oil stove for irons that will not heat the whole room to the vapor point.

#### ABOUT TUBS.

In general tubs are facts so fixed and immutable that it is hardly worth while to say more of them than that those of soapstone or porcelain are immeasurably the best. A new patent has the sloping side ridged to form a washboard, with a stationary soap cup conveniently at one side. They are calculated to make housewifely hearts sing for joy, but so costly as to be out of reach of folk of moderate income. The soapstone ones do excellently well; the main trouble is the tendency of builders to supply but two in place of the three that good laundrying demands. Many of them are likewise too small to allow the thorough cleansing of large garments.

A set tub can scarcely be too roomy. Contrary-wise a movable one ought never to be of cumbersome size. A couple of small ones, of light wood, well hooped and painted, are wonderfully convenient to supplement the set ones. Leave a little clear water in the bottom of each, between times, and see that the hoops are kept properly tight upon pain of leakage unbearable.

Cedar tubs with brass hoops are the lightest and most durable in case you must do without modern conveniences. Well cared for, a set of four, each a size smaller than the next, will last five years, and be much cheaper in the end than annual relays of the more plebeian pine.

#### ADVICE ABOUT WRINGERS.

The wringers must fit two things—your purse and your tub. Betwixt the many excellent patterns who shall take it upon herself to decide? In a general way this may be said: Choose the one that has fewest parts, needs least adjustment on them, and is fitted with the most durable rubber springs. Get a size to fit accurately a tub, neither large nor small.

In use you save much wear and tear of springs, garments and muscles by folding the things to be wrung into even thickness of a compass just to fill the breadth of the rolls. Turn the handle with steady force. One jerk does more harm to fabrics than an hour of even rolling. When out of use see that your wringer is kept where there is no danger of such unequal heat or moisture as shall induce warping.

#### BOILERS, WASHBOARDS AND CLOTHES-BASKETS.

The best boiler is copper; next comes block tin; after that the ordinary shaped tin with copper bottom, that is so given to coming in holes at exactly the wrong time—when it is full of suds and clothes, say—and thereby extinguishing equally the fire in the range and the grace in the soul of the mistress thereof. A big cast-iron pot makes an excellent boiler, but in using it it is best to avoid the danger of iron rust by boiling your clothes inside a bag of stout muslin.

Whatever the boiler, keep it religiously clean and dry when not in use, and be sure it never goes over the fire without water in the bottom.

The 25-cent zinc washboard is usually in the end a mighty costly investment. Its life at best is but a span, and toward the close it has a habit of developing tag ends and loose edges that rend and tear whatever is passed over them. By the time they give up the ghost they are apt to have destroyed raiment enough to more than offset the difference in price between them and the smooth, daintily clean porcelain affairs that with reasonable care will last all of ten years.

A clothes-basket of splint or willow, big, square, firm and light, with dependable handles, cannot be too much insisted on. The name of its uses is legion. Supply a folded muslin cloth for the bottom, another to throw over the top when full, and see to it that they are changed regularly after each wash day. Thereby you avoid many smooches.

[To be continued.]

The Romans had saucepans, gridirons, colanders, dripping pans, and toasting forks.

Coffee cups are high and narrow, tea cups low and broad. Butter knives have grown very slender.

The Fijis have a ware glazed with the rosin of a tree, but it appears to have been derived from Europe.

The modern Italian wine jars, holding about twenty quarts, are almost identical in shape and size with the amphoras found in Pompeii.

## HYGIENIC.

### ABSORPTION OF ODORS BY MILK.

The importance of keeping milk free from any contact with materials having a strong, pungent odor, can only be thoroughly appreciated by those who realize the extraordinary readiness with which milk becomes contaminated by absorption of various volatile substances. Some few years ago various experiments were made with a view to elucidate the extent of this absorption power. Certain substances giving off emanations were enclosed in jars, each jar containing a uniform quality of milk, for a period of eight hours. At the end of that time the following results were obtained, the milk sampled being drawn through a pipe from the lower portion of the vessels in which it had been deposited in the jars:

1. Coal gas.....	distinct.
2. Paraffin oil.....	strong.
3. Turpentine.....	very strong.
4. Onions.....	very strong.
5. Tobacco smoke.....	very strong.
6. Ammonia.....	moderate.
7. Musk.....	faint.
8. Asafoetida.....	distinct.
9. Stale urine.....	faint.
10. Creosote.....	faint.
11. Cheese (stale).....	distinct.
12. Chloroform.....	moderate.
13. Putrid fish.....	very bad.
14. Camphor.....	moderate.
15. Decayed cabbage.....	distinct.

It was found that the specimens of milk retained their distinctive odors for fourteen hours after their removal from the jars, and it was found that cream has certain qualities that render it even more liable to absorb and retain offensive odors. In case of sickness or disease, where unwholesome and offensive emanations are present, it is obvious that milk should be most carefully guarded from any opportunity to become contaminated, its use in that case being not only unpalatable but dangerous.—*Mark Lane Express, England.*

### CONCERNING OATMEAL.

Different opinions are entertained regarding oatmeal as an article of diet. While some maintain that it has unequalled value as to the proportionate amount of its nutritive properties, and that its digestibility is not difficult, or at most, that it is not more difficult of digestion than meal of corn and rye, on the other hand it is asserted that its indigestibility is such as to demand the entire prohibition of its use to all invalids and all persons with weak stomachs or disposed to dyspepsia.

Now it is not difficult to perceive how these differences of opinion may, and indeed must largely, occur. The oatmeal is the innocent party, and is in but slight measure amenable to adverse judgment. The differences arise from the different standpoints of the observers. The one party decides without full knowledge of the fact that they observe the results of the indigestion of oatmeal not completely cooked, or not thoroughly masticated, or in most instances most probably, the failure of both; while the other party has given attention to both, as the essential requirements of the material in question.

During the last four years considerable attention has been given in the pages of the *Monthly Bulletin* to the subject of foods, the constituents of the various kinds and their general uses in the bodily economy, the relative value of the different kinds for special uses, and the methods and observance of the necessary and proper prepara-



tion for eating, the necessary and proper action of the eater, as the necessary aids and accessories of proper digestion. In repetition it may be said, that as regards oatmeal for food, it is one of the leading kinds in the building up and support of muscle tissue, in the repairing of the waste and the energizing of brain and nerve substance, and in the production of bodily warmth. To this end there must be complete cooking and complete mastication.

The hydro-carbon and gluten constituents of the oatmeal (as of all other cereal foods), are by thorough cooking converted into dextrine, which is a step in the process of digestion; and the admixture of ptyalin or diastase in the saliva obtained by sufficient chewing, is another, and indispensable step in the attainment of complete digestion.

The so-called cooked oatmeal sold in the markets is seldom found more than half cooked, and needs from fifteen to twenty minutes additional cooking. If used with only five or ten minutes re-cooking, and then swallowed with cream and sugar or otherwise, without or with little mastication, and without or with little admixture of saliva, then more or less incomplete digestion must follow.

A fairly good stomach will not be discommoded, but of what benefit will the eating be? The food is not fitted to accomplish its designed purpose, and must largely pass away as waste material. The same may be said of all cereal foods. There should be from twenty to fifty motions of the jaws (which promote the flow of saliva), by chewing, for every mouthful of food swallowed, and not large mouthfuls at that. The task is much easier of accomplishment than might be supposed.

Try thorough mastication of all foods of grains and potatoes, and so receive full benefit at the time of use, and save the stomach for sturdy old age.—*R. I. Monthly Bulletin*.

#### CONSUMPTION CAUSED BY COWS.

WHERE MILK IS NOT USED THE DISEASE IS SAID NOT TO OCCUR.

"Consumption is the result of drinking cows' milk." Rather a sensational statement this, when it stands alone and is unqualified. Yet it comes from an authoritative source and is meant to stand alone and unqualified. Dr. Charles A. McQueston, secretary of the United States Board of Examining Surgeons and a well-known practicing physician of San Francisco, is the authority. He made this statement, and then followed it with yet stronger statements.

"I mean exactly what I say; no more, no less. The primary cause of consumption is the drinking of cows' milk. Of course I don't mean to say that every single case of phthisis is attributable directly to the patient's having imbibed infected cows' milk—though even so strong a statement as that is very nearly true—but I do mean to say that if the American people stopped using cows' milk and butter and cheese made from cows' milk, tubercular consumption would soon disappear.

"Let me put it another way: In countries where cows' milk is not used tubercular consumption is not known. The scientific world is awakening to this fact, and soon we may expect a more rigid inspection of our daily milk supply. But I must say it is taking us an unconscionably long time to discover this simple truth. And the proof is right at hand and unmistakably plain.

"In China there is no milk consumed and consumption is almost an unknown quantity. Take the steppes of Asiatic Russia. Only goats' and

mares' milk is used here. Consequently there is no consumption. Goats and horses are free from this scourge of civilization, and those who use their milk have yet to know the terrors of phthisis. The same condition is, or was until recently, true of the South Sea Islands. No cows, no tubercular disease.

"Take the North American Indians before the white man brought his whiskey and his cows among them. They had no word in their language that corresponded to consumption.

"Of course, in our day, doubtless a few cases of phthisis are produced by the person inhaling the dried sputa of a consumptive, and it may be true that some cases are inherited. But the great cause, and the first cause, is the use of cows' milk as a food."

#### ORGANISM OF MAN.

In the human body there are about 263 bones. The muscles are about 500 in number. The length of the alimentary canal is about 32 feet. The amount of blood in an adult averages 30 pounds, or fully one-fifth of the entire weight. The heart is 6 inches in length and 4 inches in diameter, and beats 70 times per minute, 4,200 times per hour, 100,800 per day, 36,792,000 times per year, 2,565,440,000 in three score and ten, and at each beat 2 1-2 ounces of blood are thrown out of it, 175 ounces per minute, 656 pounds per hour, 7 3-4 tons per day. All the blood in the body passes through the heart in three minutes. This little organ, by its ceaseless industry, pumps each day what is equal to lifting 122 tons one foot high, or one ton 122 feet high. The lungs will contain about one gallon of air, at their usual degree of inflation. We breathe on an average 1,200 times per hour, inhale 600 gallons of air, or 24,000 per day. The aggregate surface of the air cells of the lungs exceeds 20,000 square inches, an area very nearly equal to the floor of a room 12 feet square. The average weight of the brain of an adult male is 3 pounds and 8 ounces, of a female 2 pounds and 4 ounces. The nerves are all connected with it, directly or by the spinal marrow. These nerves, together with their branches and minute ramifications, probably exceed 10,000,000 in number, forming a "body guard" outnumbering by far the greatest army ever marshalled! The skin is composed of three layers, and varies from one-fourth to one-eighth of an inch in thickness. The atmospheric pressure being about 14 pounds to the square inch, a person of medium size is subjected to a pressure of 40,000 pounds! Each square inch of skin contains 3,500 sweating tubes, or perspiratory pores, each of which may be likened to a little drain pipe one-fourth of an inch long, making an aggregate length of the entire surface of the body of 201,166 feet, or a tile ditch for draining the body almost 40 miles long. Man is marvelously made. Who is eager to investigate the curious and wonderful works of Omnipotent Wisdom, let him not wander the wide world around to seek them, but examine himself.—*Popular Science News*.

HOW TO GO TO BED.—We have still something to learn in the matter of nursing, according to Dr. Richardson, who tells us in the *Asclepiad* that in hospital, as in private practice, great errors are made in the choice of bed-clothing for the sick, and particularly for the sick who are suffering from febrile affections. We have got rid of the heavy curtains around the bed; of the grand accumulator of dust and uncleanness, the tester; of the heavy vallance, which converted the under part of the bed into a close cupboard, in which all

kinds of unwholesome and cumbrous articles lay concealed, including sometimes excreted matter itself; and we have banished the carpet, which often, as a hard-trodden, dust-laden rag, made the floor beneath the bed persistently impure. This is all good; but the old feather beds, flock mattresses heavy blankets, thick, impermeable and dense counterpanes still encumber many a patient, rendering ventilation of his body as impossible as in the days of our forefathers. The art of going to bed is one which has been studied (and practiced) for untold centuries. We have not advanced much on the practice of our forefathers in the West. According to Mr. Ernest Hart, and now according to Dr. Richardson, we "go to bed" in a very unwholesome and stupid fashion.—*British Medical Journal*.

#### MEDICAL.

##### DO DOCTORS SPREAD CONTAGION?

The Iowa State Board of Health in its latest bulletin gives the following sensible advice to doctors. It would be well if it were heeded:

We receive frequent letters at this office asking why it is that quarantine and isolation are required in cases of infectious disease on the part of friends and neighbors and the family, and yet the physician can go in and out without any precaution or any effort at disinfection whatever.

The people want to know what peculiar property the physician possesses that enables him to go into a room where children are sick with measles, scarlet fever or diphtheria and after discharging his professional or social duty, without any change of clothing or disinfection whatever, go across the street or into the adjoining residence to visit other children, and at the same time not endanger them any.

Dr. John Graham, of Philadelphia, in a late number of the *Medical News*, has an article which is so good and so much to the point on this question that we transfer it bodily to the *Bulletin*. We hope not only all the physicians who receive the *Bulletin* will read the article carefully but every layman as well. Everybody in the State should be warned of the great danger from such careless practices; and parents having small children should not employ a physician who thus wantonly and recklessly exposes them to diseases that it is his duty to use every endeavor to prevent. The article is as follows:

The surgeon and the obstetrician utilize the means that experiment and observation have proved necessary to render their work aseptic. In case of the entrance of disease germs, they take prompt means to destroy them, or to neutralize their effects. It behooves us, who practice among children suffering from contagious diseases, to inquire if we are equally careful.

The surgeon about to open an abdominal cavity removes all possible sources of infection from his patient's person and environment, and goes to his work with clean linen and clean hands. Do we do likewise?

Some time ago a prominent operator sent me an invitation to witness an abdominal section, adding in his note, "Provided you have not visited a case of scarlet fever or other contagious disease during the last twenty-four hours." I could not but think, if such precaution is necessary to insure the safety of this patient, what are the risks to the little children that I shall visit after seeing the case of scarlet fever or other contagious disease, and whose systems are fertile soils for the poison to develop it?

The danger of such conveyance is great, as



physicians with large family practice know, and many, like myself, have been taught the lesson by sad experience. I can recall several instances in which the children of physicians have fallen victims to scarlet fever and diphtheria, the cause being clearly traced to disease brought home by their fathers.

Let me illustrate this danger by a description of a physician's visit to a case of diphtheria. The doctor enters the house, removes his hat, overcoat and gloves, and is shown into the room containing the patient, and comes into direct contact with the atmosphere loaded with the germs of the disease. His hair, woolen clothing, hands, etc., must more or less absorb the poison, in his stay of about fifteen minutes. What does he then do? He replaces his overcoat, carefully buttoning it up, as if to keep as many of the germs as possible warm and well protected. He puts on his hat as he crosses the threshold, jumps into his carriage, covers himself with robes, and drives to his next patient; enters, takes off his hat and coat and woe to any little ones who live in that house! The doctor has probably that with him which will more likely kill than cure.

What should be done to diminish this danger? Stay no longer in a house containing a contagious disease than is absolutely necessary. Don't remove your hat or unbutton your coat in that house. After examining the patient go down stairs, preferably at an open door or window, and give directions for treatment. The family of the patient will respect you for the care you exercise, when you explain the reason. Drive without covering with robes to your next patient, and be sure that patient is not a child. Never allow a messenger from a case of contagious disease to call or wait for you in your office. Instruct him to bring written messages and leave them at your door. If the messenger wishes to speak to you, tell him to wait outside your office and ask the servant to call you to the door.

I have more than once been startled on entering my office to see a man or woman whom I knew had been constantly for days and nights nursing a bad case of diphtheria, sitting complacently alongside of two or three children, all waiting to see me. On several occasions mothers have brought children, suffering from severe attacks of diphtheria, to my office and waited to see me.

When you come home from a case of contagious disease, beside washing your hands, face and head with soap and water, hang up your hat and coat in the air, and put on a fresh coat.

I did this some time ago and forgot to bring them in when I went to bed. It rained hard all night—but better lose a hat and coat than a patient.

If you return late at night from a case of contagious disease, beside washing, undress before going into the room where your children are. Keep your own children out of your office, and do not take them in the carriage with you when visiting patients. How do you know but some of your calls may be upon those with contagious diseases?

Our board of health instructs us, in cases of contagious disease, to forbid the children of the household to attend school or other places of public resort. This is a wise precaution, and the doctor, when he has been in contact with contagious disease, should so far as possible, follow the advice given to the children.

We are told that familiarity with crime leads us to endure it. Likewise familiarity with contagious disease is likely to make us at times careless in using the means necessary to prevent its spread. Physicians are but mortals, and while as

a body they are conscientious in the discharge of their duties, candor compels me to confess that they are not at all times as careful as they should be.

### SARSAPARILLA—ITS CONSTITUENTS.

Our knowledge of the active principles of sarsaparilla has been distinguished by considerable uncertainty, owing to the varying reports of different experimenters. Kobers of Dorpat has conducted recently a series of investigations, with a view of determining with greater exactness the chemical and physiological properties of its glucosidal principles. The substance of his work may be summed up thus: Sarsaparilla contains three glucosidal principles.

1. Parillin, with a formula, according to Van Schulz, of  $C_{26}H_{44}O_{10} + 2\frac{1}{2}H_2O$ .

2. Saponin, which Kobers proposes to call "sarsaparillaponin," and which has the composition  $5(C_{20}H_{32}O_{10} + 2\frac{1}{2}H_2O)$ . It is contrary to parillin, soluble in water.

3. Sarsasaponin, which is constituted of  $12(C_{22}H_{36}O_{10} + 2H_2O)$ , and is easily soluble in water.

Sarsasaponin is the most powerful of the active constituents, and is toxic in doses of 50 mg. per kilo weight of dog or cat when introduced into the blood by subcutaneous injection. Administered by the mouth, any of the constituents produce pyalism, itching in the throat and diarrhoea. When injected hypodermatically, they act in a similar manner to that class of drugs which produce aseptic inflammation. The red blood corpuscles are at the same time destroyed with greater rapidity than that caused by any known poison. Hæmoglobinuria is one of the usual poisoning symptoms. The active constituents are neither resorbed by the subcutaneous layers nor in the alimentary canal.

MODERN DISEASES.—The lawn tennis arm, like the "housemaid's knee" and the "dentist's leg," are all described as "modern diseases." The continuous use of the telephone is said to cause a buzzing noise in the ears of many people, accompanied by an intense nervous irritability. This illness, which seems destined to last, has already received the name of "telephonic tintinnatus." It victims are intolerant of the faintest din, and will sometimes develop serious inflammation of the tympanum. We might mention also among modern diseases the erythema developed in the skin of the face of those who are much subjected to the rays of the electric light, or who are in the habit of working powerful electric batteries. Photographers suffer from various modern ailments, such as chromic acid poisoning, and the poisonous effects of phenol compounds are often observed in those whose lives are devoted to dyeing and to the manufacture of coal-tar colors. All these affections of the human being were quite unknown less than half a century ago.

Cut glass bottles in decanter or ewer shape are part of the 5 o'clock tea table furnishings now, to hold the alcohol for the spirit lamp

## ADULTERATION.

### ADULTERATED FOOD IN MASSACHUSETTS.

ABSTRACT OF THE NOVEMBER REPORT OF THE MASSACHUSETTS BOARD OF HEALTH.

The following summary presents the results of the examinations of food and drugs by the Massachusetts State Board of Health in the month of November:

Articles examined	Number found to be of good quality.	Number adulterated or varying from the legal standard.	Total.
Milk.....	131	145	276
Butter.....	36	0	36
Cheese.....	1	0	1
Lard.....	5	1	6
Olive oil.....	..	..	..
Vinegar.....	5	2	7
Spices.....	107	20	127
Cream of tartar.....	37	0	37
Molasses.....	9	0	9
Syrups.....	..	..	..
Maple sugar.....	..	..	..
Maple syrup.....	4	0	4
Canned goods.....	12	0	12
Honey.....	8	0	8
Tea.....	4	0	4
Coffee.....	4	2	6
Cocoa.....	..	..	..
Confectionery.....	20	0	20
Other articles of food and drink.....	13	1	14
Drugs.....	45	16	61
Total.....	441	187	628

Percentage of adulteration, 29.9. The actual ratio of adulteration is very much less than this since it is only suspicious articles of food to which the attention of the Board is directed. Certain staple products, such as sugar, flour, and the various other cereal products are very rarely adulterated, and require but little inspection.

The ratio of samples of milk found to be adulterated was 52.5 per cent.

A number of samples of canned corn bleached with sodium sulphite has been examined this month. The original sulphite appears in the finished product chiefly in the form of sulphate, but it is in such minute amounts that it can hardly be considered of importance.

A "salt fish" preserved with boracic acid in addition to salt was found.

Five complaints were entered in the courts during the month for violation of the laws relative to the inspection of food and drugs. Two of these were for violation of the statutes relative to the sale of coffee; one of butter; one of cloves; and one of mustard. Fines were imposed amounting to \$135.

The samples of drugs found to be adulterated were tincture of iodine, tincture of opium, red wine, white wine, citrate of iron and quinine, and olive oil.

The following spices obtained in Fall River afford a good illustration of such articles as are advertised with gifts of open wagons, reclining chairs, and other articles:

Pepper adulterated with 50 per cent of wheat, buckwheat, nutshells, and other foreign matter.

Ginger adulterated with 25 per cent of wheat and rice.

Mustard adulterated with 40 to 70 per cent of wheat, rice, and turmeric.

Cinnamon adulterated with nutshells, peas, ginger, and pepper.

Cloves adulterated with nutshells, peas, ginger, pepper, and dirt.

These articles bore the brand of the Silver King Spice Mills, and were advertised by D. Lawrence Shaw, 62 College Place and 72 Warren street, New York.—*N. E. Grocer.*

### REPORT OF THE MINNESOTA DAIRY AND FOOD COMMISSIONER.

Dairy and Food Commissioner Finseth's annual and retiring report to the Legislature is ready for that body. The *N. W. Trade* thus summarizes it from advance sheets:

The report says that the State laws make no discrimination with regard to the different quali-



ties of butter found upon our markets (of course not, they were only made to enable the farmers to sell vile butter and keep out good wholesome oleo), and the commissioner cannot condemn an article of butter, no matter how vile and rank, if it is proved to be made from pure cream, and that no adulteration whatever has entered into its composition; therefore the consumer must judge of its quality, and the quality governs the price.

Since the cheese industry has been recognized by the State Legislature, and protection vouchsafed it by the enactment of stringent laws prohibiting the sale of low-grade and filled cheese of other States within our borders, the cheese industry of this State has received an impetus which has resulted in placing it in an enviable position; to-day cheese bearing the brand "Minnesota State Full Cream Cheese" demands a good price on our markets, and its brand is a sufficient guarantee of its purity and excellence.

The report leaps upon oleomargarine with both feet, and says the sale of this compound in the State of Minnesota at the present time is very limited, and its sale is confined to the lumber and mining camps at the extreme northern part of the State.

Vinegar, also, comes in for a large share of attention, as the article of food that has been most persistently tampered with and most frequently adulterated. The commissioner thinks now the department is gradually clearing out all but the pure article. The report then roasts the Alden Vinegar Company of St. Louis: "The most persistent manufacturer of spurious, illegal and impure vinegar is the Alden Vinegar Company of St. Louis, Mo. These vinegars are placed upon the markets under many names and brands, but on analysis are found to be equally impure, regardless of the brand. Their vinegars have been so thoroughly advertised throughout the State that their sales are very limited indeed, and Minnesota has ceased to be a dumping ground for their 'vile concoction,' and the name 'Alden' that so proudly occupied the place of honor on the barrel heads is supplanted by a big 'A,' the name having become in such bad odor throughout the State."

Before the enactment of the present lard law, a "lard substitute" found its way to our markets that for a time bid fair to supplant genuine lard. This compound consisted principally of cottonseed oil and stearine. It was very white, and was placed in the hands of the retailer at a much lower figure than genuine lard. Its general appearance was in its favor, and the general public might be easily deceived thereby. While it might be substituted for lard to a certain extent, yet it would not recommend itself for general use in all culinary departments in the preparation of food, as foods prepared with this substance soon become strong and rancid, and would fall far short of giving entire satisfaction. The law now in operation does not prevent its sale, but it requires it be sold for what it really is. The article must be plainly branded "lard substitute" or "adulterated lard."

The report concludes with the recommendation that the scope of the commission should be enlarged and many other articles placed within its province. Honey should be added, and coffee and spices, "all three of which are sold in frightfully adulterated form." Speaking of coffee the report says: "Parties are at work in some of the Eastern States gathering coffee grounds, and after drying and grinding them to a fine powder, they mix it with rye flour into a dough and re-press it in molds in the shape of the coffee berry, and this fraud passes unnoticed except under the closest scrutiny. This article is sold to unprincipled mer-

chants for four cents a pound and mixed with the genuine coffee; and yet you will wonder how it is that your coffee is flat and unsatisfactory, and the delightful aroma lacking. We would most respectfully ask that the Legislature look into the matter and assist us in driving this vile fraud from our State by wise legislation. It is certainly a matter of grave importance, and demands our immediate attention."

#### SOPHISTICATED LARD.

Though in itself a sufficiently simple commodity, lard of late has been giving some trouble, especially to the retailers, and its constitution has been the subject of prolonged magisterial and analytical inquiry. The competition amongst the producers, we need scarcely say, is wonderfully keen. Immense fortunes have been made out of lard, and the industry, notably in America, has assumed vast proportions. Lard manufacturers in this country have run their English rivals very hard indeed in the matter of price, and the latter complain, not without reason, that the existing conditions of the competition are not exactly fair. Everything depends, of course, on the nature and cost of the materials used in the manufacture, because, if cheaper constituents are systematically utilized in America than those employed in this country, it follows that our markets cannot compete successfully in the matter of price. Consumers, too, are naturally much interested in this point, for what they especially want is pure rather than cheap lard; and if purity and excessive cheapness are found to be incompatible in regard to this particular commodity, we trust that chief consideration will be given to quality. These various questions were raised in the important Huddersfield lard prosecution. A local grocer was summoned, under the Sale of Food Act, for selling adulterated lard, which, according to the evidence, was made in America, and which the public analyst certified to contain 15 per cent of beef stearine. Here we may illustrate the question of price as between American and other commodity. The quotation for the first named lard was, we are informed, on the 4th inst., 42s 3d c. i. f. Liverpool for 28-lb. pails, whereas the lowest quotation for a well known brand of pure lard was 44s c. i. f. Thus an immense trade is done in this country by our American friends, since a slightly lower quotation is, in these days of cutting rates, a paramount attraction. But, while paying sufficient regard to this consideration, a grocer should pause to inquire, (1) is the article perfectly pure? (2) is it likely to bring me into collision with the local authorities; and (3) will it please my customers? these are all vital questions, and may be regarded as absolutely essential to the controversy.

The Huddersfield analyst certified that there was 15 per cent of beef stearine in the American lard, and it was alleged on behalf of the manufacturers that this substance was used to stiffen the article and to make it firm. It was not admitted that there were other advantages, such as cheapness, connected with the use of beef stearine, but the evidence on this point is instructive. An ordinary consumer would be inclined to prefer lard without 15 per cent of beef stearine and we certainly contend that this admixture should be declared to the purchaser at the time of sale, so that he may have an opportunity of making a more judicious selection should he wish to do so. Then it may be asked, is the beef stearine necessary? On this point an English firm of manufacturers write to us: "We stiffen our lard in hot weather with lard stearine, and thereby entail considerable loss on the oil extracted therefrom,

owing to cheap mineral oils having displaced lard oil in commerce. Consequently a man who uses beef fat or tallow for stiffening, which costs say 2d per lb., makes a big thing out of it with lard at 48s. There is only one legitimate method of stiffening lard, viz., by making lard stearine from lard, which increases the cost." One often hears the cry nowadays. "Support home industries!" and, while we do not affect to depreciate the vast importance of the American trade especially in provisions, we do say that all goods, whether imported or home-made, should be sold under their true colors, and that, if an article be mixed, the fact should be stated, as prescribed by Act of Parliament. This matter is one of great importance to retail grocers, since it is they who, though perfectly innocent, are invariably made the victims of outraged justice. In the Huddersfield case the retailer sold the lard as pure because he bought it as pure and thought it was pure. There was no suggestion that he had acted fraudulently, and he was fined £10 and costs. The money may be paid for him—as it certainly ought to be—but it does a trader's character no good to be publicly fined in a police court, and we shall be glad to know if the American manufacturers, out of their abounding opulence, will make any allowances on this account.—*London Grocer.*

#### POISONOUS METALS IN PRESERVED FOODS.

BY W. REUSS.

The fact that the amount of lead in the tin coating of vessels for preserved food, and that in the solder with which they are united, have been limited by law in Germany to 1 per cent and 10 per cent respectively, has caused the adoption of vessels closed without a soldered joint, a rubber ring being substituted instead. The author having observed that preserved foods contained in vessels of this description which appeared unexceptionable were often contaminated with lead, has examined into the cause of its presence, and finds it to be due to the rubber ring employed.

The following examples are chosen from among the figures quoted by him: 1. India rubber rings made in Paris and used by a large German firm: a. average weight of ring, 0.5 gram; ash, 66.6 per cent, consisting almost wholly of red lead; no antimony sulphide was present. b. An experiment was made by exposing a rubber ring to water under pressure at a temperature of 100 deg. to 112 deg. C. for 30 minutes; at the end of this time the ring was found to be much softened, and 0.0286 grams red lead (misprinted Mn<sub>2</sub>O<sub>4</sub> in original) was suspended in the water, which contained no lead in solution. c. Another ring was similarly treated in the presence of 0.5 kg. of asparagus. The solution gave an immediate precipitate of lead sulphate on the addition of sulphuric acid; the quantity of lead in solution corresponded to 60 per cent of the total amount in the ring. 2. India rubber rings taken from tins of Australian meat from a large English firm had the same composition as those mentioned under 1. 3. Red rubber rings from Vienna contained 63 per cent of ash, the bulk of which was red lead. 4. Red rubber rings from a German factory gave similar results, save that a little antimony sulphide was present. 5. Numerous analyses of rings from German firms gave similar figures.

In view of these facts the author is interesting himself in the manufacture and use of rings of a less poisonous character.—*Chem. Zeitg.*

Well shaken before taken—People who marry late in life.



## MISCELLANEOUS.

### SERPENT'S VENOM OR POISON?

A physician, while talking with a group of friends, remarked: "It is common to hear people speak about poisonous serpents. Serpents are never poisonous; they are venomous. A poison cannot be taken internally without bad effects; a venom can. Venoms, to be effective, have to be injected directly into the circulation, and this is the manner in which the snakes kill. Their venom, taken internally, is innocuous.

"Another popular error is the supposition that a snake bites. Probably no creature in the world provided with teeth and jaws has so little power of biting. The jaws are not hinged, but are attached one to the other by cartilage. Thus a snake can have no leverage in opposing one jaw to the other, and could not in this manner pierce the skin. The fangs are driven into the flesh by a stroke and not by a bite. A snake is harmless unless in coil. From its coil it throws its head and body forward, and strikes or hooks its fangs into the object aimed at. The entire work is done with the upper jaw, the lower jaw having nothing at all to do with it. A man striking a boat hook into a pier furnishes an example of the way in which a snake strikes. Biting is a physical impossibility."—*N. O. Times.*

### WHEN CATS WERE WORTH MONEY.

In the early part of 1890 a cargo of cats arrived in England from Egypt, having been shipped by a merchant in Alexandria to a merchant in Liverpool.

This cargo consisted of twenty tons of cats, being the remains of 180,000 of the sacred Egyptian cats, every one of which at the time of its decease had been deemed worthy of special embalment into a mummy and honorable sepulture, according to the rites of the ancient cities in that country.

These mummified cats are supposed to have lived some thousands of years before Christ, and to have been buried for close upon 4,000 years in the cat cemetery at Beni Hassan.

They were accidentally discovered by a fellow husbandman in 1889 by the ground on which he was working falling in and disclosing an immense subterranean cave, in which they were found. This cave was tenanted by untold legions of cats, all sedulously embalmed and swaddled in cloth cerements.

A second consignment weighed nine tons. There was brisk competition when the cargo was sold by auction. Heads brought as much as 4 shillings 6 pence each; body without head 5 shillings 6 pence, while the bulk averaged £5 17s. 6d. per ton.

### GAVE MARIA A LESSON.

Evidently there is no Servant Girls' Protective Union in London, or if there is the young woman mentioned below did not belong to it. Think of such a thing happening to one of our own toplofty servant girls! A German merchant in London has a servant who at first was very forgetful. This fault was especially annoying at meal times, when something essential was sure to be lacking from the table. One day the family were seated at the table, and the bell was rung as usual. The girl hurried to the dining room.

"Maria," said Herr B—, "just run and fetch

the big stepladder down from the attic and bring it here."

Maria, who had been disturbed at her dinner, gave a grunt of dissatisfaction, but ran up three flights of stairs to fetch the ladder. In about five minutes she returned to the room, panting with her exertion.

"Now," said Herr B—, "put it up at that end of the room and climb to the top."

Maria did as she was told, and when she was at the top Herr B— quietly observed:

"Maria, you have now got a better view than we have; just look around and tell us if you can see any salt on the table. My wife and I could not find it."

This settled the business. Maria has never forgotten the lesson.

### USES OF ANIMAL PRODUCTS.

At the Chicago Stock Yards and other large abattoirs every portion of the animals slaughtered is turned to account. It has been aptly said that of a steer nothing is lost but its dying breath. The hide goes to the tanners; the larger bones are cut into knife handles, buttons, and numerous other articles; the small bones and the teeth are ground and used for fertilizing purposes. Bone black, for refining, is made by burning the jaw bones. Clean, hard bones, such as knuckle bones, jaw bones and shoulder bones are used by baking powder manufacturers. They calcine them, taking out all the impurities, as well as ammonia. Anhydrous ammonia is employed for the refrigerating process in ice machines. Hoofs and horns are worked into combs, hair pins, buttons, etc. The pith from the horns, together with the pates and hide trimmings, go to glue manufacturers. The intestines are taken by sausage makers and gold beaters, hair from the tail by mattress makers and upholsterers. The gall is used for medicinal purposes, and the gall bag and bladder by manufacturers of putty. The blood, contents of the stomach and intestines, and all the residue called tankage, make excellent fertilizers. Blood is also used by sugar refiners, because of the albumen it contains. Among the valuable by-products of beeves are neatsfoot oil, tallow, oleomargarine fats, oleo-stearine, and tallow stearine.

## BOOK REVIEWS.

**HOW NATURE CURES:** Comprising a New System of Hygiene by Emmet Densmore, M. D. Swan, Sonnenschein & Co., London, and Stillman & Co., New York.

We cannot do better than quote the able critic of the *New York Herald*, who says, and we certainly believe every word of his criticism to be just and true: There is something very amusing in hearing a layman berate the medical profession, declare that doctors are a nuisance and that their chief purpose is to run up a big and ruinous bill. But when a regular M. D. enters the arena against his own fraternity and makes the air lurid with his astounding assertions we prick up our ears and wonder what's the matter.

We have read chapter after chapter until our confusion is still worse confounded. The Doctor begins with a quotation from Dr. Inman's book, published in 1876, in which that author says:—

"Some thirty years ago, after a period of laborious study, I became the house surgeon of a large infirmary. In that institution I was enabled to see the practice of seven different doctors and to compare the results which followed from their various plans of treatment. I soon found that

the number of cures was nearly equal among them all, and became certain that recovery was little influenced by the medicine given. The conclusion drawn was that the physician could do harm, but that his power for good was limited \* \* \* Here and there, it is true that the art and skill of the physician or surgeon can relieve pain, avert danger from accidents and ward off death for a time, but in the generality of cases doctors are powerless."

After that we are prepared for almost anything. Dr. Densmore takes the subject in hand rather roughly and thinks he tells his readers how to preserve their health without the aid of an M. D. Some of his rules commend themselves and some do not. He goes so far in certain directions that we wonder whether he is really inaugurating a new era or is only a crank. In the matter of food, for instance, he discards as injurious pretty nearly everything that the appetite of a sane man craves. You must not eat salt and he gives the reasons. You must not indulge in tea or coffee. He says:—"A person can become addicted to the poison habit by a continued use of tea, coffee, tobacco, alcohol or opium. Whichever drug is used the result is much the same." As to the various kinds of meat, they are all alike abominations. Roast beef is infidelity, a broiled chicken is heresy and a sparerib of pork is downright atheism. When you turn on him, aghast at these deprivations, and ask him what in the world we can eat, he smiles serenely and remarks that fruit makes a very healthy diet. Think of a strong man looking forward to a breakfast of dried apples, a dinner of mushrooms and a supper of bananas.

If you happen to be in any way ailing the doctor's prescription is to eat nothing at all. In his own words:—

"We have now the rationale of the first rule to be followed whenever any one is ill:—Partake of no food during forty-eight hours; after that time continue an absolute fast from food until the patient has pronounced natural hunger."

In the matter of longevity the Doctor adduces some interesting facts. His theory is that any person who treats himself properly may reasonably expect to live at least a round hundred years, and if he takes special care of himself he ought to add to that figure two score years more. He quotes from Sir James Crichton Browne's address on "Old Age," and asserts that "while old age at the present time is complicated with gout and rheumatism and various morbid conditions, they are not necessarily the result of age, but arise from causes operative long before age supervenes." "Old age," said Sir James, "may run its course to the century goal without being complicated by any senile maladies or crippled by any senile infirmities." He adds that "the organism from which flow reason and judgment comes to its perfection late in life—in all likelihood between the fifty-fifth and sixty-fifth years—and may be exercised justly till an advanced age."

The Doctor has firm faith in exercise and air. He advises us to indulge in mild gymnastics every morning, and repudiates the claims of heavy dumb bells and clubs. What you want, he says, is not an over big muscle, but one that will do the work required of it without fatigue. Long walks are his pet prescription, and he insists that if you keep out in the open several hours a day you will have very little need of a physician's services. And how about the open window at night? Well, he says you must have air, and night air is all there is at night. It is better to have plenty of the best there is than to shut your windows tight and breathe the old day air over and over again until it becomes thoroughly vitiated.



We have been deeply interested in this volume, as our readers can be. It is very suggestive, contains a good many warnings that ought to be listened to and on the whole is well worth careful study. But as for giving up the morning cup of coffee poison, we will think about it; and as for refusing the plate of rare roast beef—well, we have already thought about it and have concluded to indulge in that amount of dissipation as long as roast beef lasts.

#### THE MAYBRICK CASE ENGLISH CRIMINAL LAW, by Dr. Helen Densmore.

Although but a pamphlet, it contains incontrovertible proofs that Mrs. Maybrick had an unfair trial, that there was no evidence brought forward of her guilt, and that she is a victim of one of the greatest miscarriages of justice in modern times.

In addition to Dr. Densmore's analysis of the evidence adduced at the trial, and her exposition of English Criminal Law, the pamphlet contains an extended quotation from Mr. Thomas' book which clearly shows the impossibility of Mr. Maybrick's death having been caused by arsenic. The quotations from Mr. Stead and from Mr. MacDougall—the one a prominent editor and journalist and the other an able London lawyer—are significant, and the other three open letters from Gail Hamilton will be seen to be written with her accustomed brilliancy and power.

That the people may be made acquainted with the facts in the case, and in view of the great injustice done to Mrs. Maybrick, we give greater prominence to this effort than we otherwise would.

The author and compiler will contribute to the Maybrick fund all receipts from the sale of the pamphlet over the bare cost of publishing, and she earnestly appeals to her friends and every lover of justice to aid in its sale and distribution.

All orders should be sent to the American publishers, Stillman & Co., 1398 Broadway, New York.

## LITERARY NOTICES.

### HOME AND COUNTRY MAGAZINE.

The February issue of the *Home and Country Magazine*, the second since its reconstruction and reorganization, places this periodical in line with our high-class American monthlies. Last month showed so decided an improvement on all previous numbers sent out during the eight years of its existence that we confess to having awaited the second issue under its new management with some little curiosity. Apparently the new editor knows what the American people want and proposes to give it to them.

The handsomely illuminated cover page in eight colors is exceedingly attractive. The art supplements, that are to be a future of the magazine, include this month admirably executed reproductions of Zenobia, the Madonna and Child, and Beauty.

*Home and Country Magazine* has learned the art of treating historical and scientific subjects in a popular way. Even the most serious and difficult seem transformed into entertaining stories. The articles on Mount Sinai, Science in Story, Fakirs and Yogis, fully illustrate this.

We predict for *Home and Country Magazine* a brilliant success; that it will be a welcome guest in every home, and exercise a lasting influence throughout the country. It is evidently an American magazine, broad, liberal, and unbiased in its scope.

Price, 25 cents per copy, \$2.50 per year. Joseph W. Kay, publisher, 96 and 98 Maiden Lane, New York.

### CHILDHOOD.

It is an encouraging sign of the times that there is a growing class of both men and women who recognize the responsibilities of parenthood, and desire to avail themselves of all the helps possible toward the carrying out of these modern ideas. To all such the magazine published in New York and called *Childhood* will come as a guide to whatever is best in child culture. Its main purpose is to set parents a-thinking. It teaches more by suggestion than precept. It aims to inculcate the idea that children are not property. It hopes to make child-life fairer and better by developing in parents just ideas as to home government. Three numbers have now been issued containing articles by Julian Hawthorne, Jane G. Austin, Lester F. Ward, Maria Louise Pool, Minot J. Savage, Olive Thorne Miller, Felix L. Oswald, Florence Hull, Alexander Wilder and others. These three numbers containing nearly one hundred thousand words of choice literature (every word written especially for this magazine) can be had by sending 25c to Dr. George William Winterburn, No. 230 West One Hundred and Thirty-second street, New York, or at news stands at 10 cents a copy.

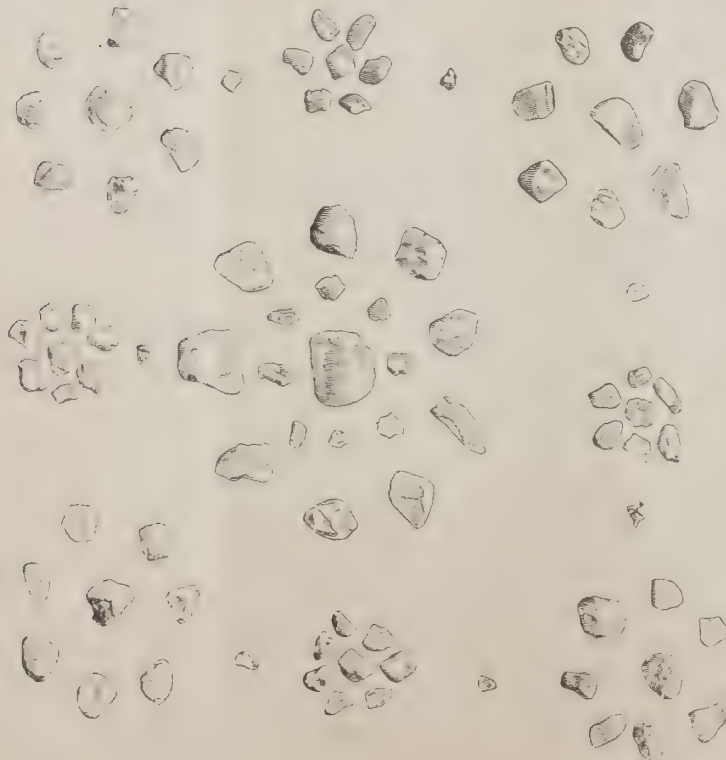
WORTHINGTON'S MAGAZINE for March is a royal number. Evidently this vigorous young magazine is growing and thriving, since, though exceptionally bright from the start, each number steadily gains in interest, attractiveness and value, and its success in catering to the varied tastes and requirements of the American family at home proves its ability to give valuable points to many an older and more experienced periodical.

The familiar remarks on the "penny for your thoughts" line are now classed as common cents suggestions.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They gave him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the [most] part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## LA GRIPPE ABROAD AGAIN.

Physicians report a re-appearance, in almost all our principal cities, of the infusorial catarrh, popularly known by its French title of "La Grippe." While it is extremely probable that there may be, at this season, an access of this malady, it is unquestionably the fact that many persons, perhaps even a majority of the community, are prone to confound with La Grippe the much commoner and really more dangerous symptoms of what used to be known as "a common cold." The luxuries of civilization, which have come to be regarded as necessities of existence in our big cities, are largely responsible for the frequency of colds. Overheated homes, places of worship and amusement, stores, and even street cars, are the causes of innumerable "common colds" liable to develop into bronchitis, pneumonia, and other fatal diseases, if allowed to "run their course" and "wear themselves out," which used to be the common advice to sufferers and one they too often followed of necessity, whether they would or not. We cannot safely adopt that policy of "masterly inactivity," however well it may have worked in our forefathers' experience. We have not been hardened by exposure as they were—such of us at least as live in cities and have what we now deem "the comforts of life"—and are not so tough. For

## Peep into your Kitchen

and see what they're washing and cleaning with. Probably you think its **Pearline**. No doubt you've told your servants to use it, and think that they're doing so. But look at the front of the package for yourself, and see that it's the genuine article.

A house-to-house canvass discloses the fact that many women think they are using, or have used, **Pearline**, when an examination of the package proves the stuff to be some of the "same as" or "as good as," which peddlers, unscrupulous grocers and prize-givers are trying to work off upon a long-suffering public.

If it's these imitations that you're using, ten to one you're not enthusiastic about Washing Compounds; you couldn't be.

**Send it Back**

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as **Pearline**." IT'S FALSE—**Pearline** is never peddled, and if your grocer sends you something in place of **Pearline**, do the honest thing—*send it back*.

349

JAMES PYLE, New York.



# Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to  
**Rumford Chemical Works, Providence, R. I.**

Beware of Substitutes and Imitations.

For sale by all Druggists.

us, taking "a common cold" is a very serious matter, and if we are wise we will do our level best to get rid of it in as short order as possible. A cold is produced by congestion of the circulation, through unequal temperature in different parts of the body. From that condition spring almost instantly the symptoms of internal fever, external chills, local pains, inflammation and irritation of the mucuous membranes of the air passages of the head, throat, etc., with general depression of the nerve forces and lowering of vitality. Hot applications, baths and tonics are all desirable and good as far as they go, but cure need not be hoped for without a medicine which will alleviate the irritation of the mucous membranes, relieve the inflammation established, relax the congested tissues and tone up the system generally. The preparation known as Ayer's Cherry Pectoral is more effective than anything else for this service. It is a scientifically and conscientiously compounded medicine, the formula for which is well known to the medical profession and universally indorsed by physicians, both in this country and abroad. No household should be without a bottle of it, for immediate use upon occasion during the winter and spring, particularly if there are children in the family. Every mother knows the importance of having ready at hand a reliable remedy for the ailments to which her little ones are most liable. A dose in time not only "saves nine" but very often saves the life of a child, especially in the class of affections for which Ayer's Cherry Pectoral is a specific. Administered according to directions it is perfectly safe, even for infants, and is one of the pleasantest medicines to take that can be imagined.

## A. LEOFRED,

(GRADUATE OF LAVAL AND MCGILL)

## MINING ENGINEER,

Branch Office, Montreal.

Head Office, QUEBEC.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Apud Harvathy & Co.*

Producers of the

# ECLIPSE

CHAMPAGNE,

530 Washington St.  
SAN FRANCISCO.

## GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets. O V Chablis, possessed of all the delicate pungency of its French counterpart.

O V Sauterne, with the exact character and *Seve* of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.

"Eat BEECHNUT Hams and Bacon"



## BUSINESS NOTES.

### CATARRH CANNOT BE CURED

With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. J. CHENEY & CO., Props., Toledo, O.  
Sold by druggists, price 75c.

### HORSFORD'S ACID PHOSPHATE

A healthful tonic. Used in place of lemons or lime juice it will harmonize with such stimulants as are necessary to take.

Dr. Price, of the White Star SS. Germanic, says: "I have prescribed it in my practice among the passengers traveling to and from Europe, in this steamer, and the result has satisfied me that if taken in time, it will, in a great many cases, prevent seasickness."

### THE POET'S REVENGE.

"I've brought you a little thing of my own,"

The Poet meekly said,

The Editor uttered a ghastly groan,

And shook his massive head.

"'Tis small, but so precious," the Poet sighed,

The Editor groaned once more,

He thought to himself that the Poet lied;

As poets had done before.

The Poet continued, though fiercer still

Became the Editor's mien:

"If you will not use it, there's many will,

'Tis a packet of Pyle's Pearline."

Then the Editor understood the jest,

But vainly he tried to smile;

He knew that the present his wife liked best

Was Pearline made by Pyle.

—The King's Jester.

REV. PLINK PLUNK ON "HUSTLING."—Eberything comes to de man dat waits, deah breddern, but de sensible man is de one dat runs half way to meet his opportunities, wile de foolish one sets down an' waits an' wonders w'y eberything is so long in comin'.—*New York Herald*.

A NEW HAND AT SEA.—Pat (doing lookout duty for the first time)—Hilloo!

Officer (on the bridge)—What is it, Pat?

Pat—Shure, an Oi dunno.

Officer—Well, what do you see?

Pat—Oi see a rid an' a grane loight, an' Oi thing it must be a dhrug sthore.—*Judge*.

A PROBLEM.—Mr. Daddy—I wish our baby could talk more plainly; Brown's baby is a month younger and one can understand almost every word it says. I wonder why it is?

Mrs Daddy (offended)—I'm sure I don't know. (To the baby)—Comesey tooty mommy ittee sweetie. Does 'oo wicked popper scold 'oo, dear 'ittle popsy wopsy dodkins.—*Puck*.

TWO WAYS TO DO IT.—A parson who had a call from a little country parish to a large and wealthy one in a big city asked time for prayer and consideration. Finally some one met his youngest son on the street.

"How is it, Josiah," said the neighbor, "is your father going to B.?"

"Well," answered the youngster, judiciously, "paw is still praying for light, but most of the things is packed."—*Philadelphia Times*.

A LIMIT TO PROGRESS.—Old Gent—When the children of to-day get to be old folks, I don't see how they are going to get light enough to read by.

Friend—What's to hinder?

Old Gent—When I was a boy we used candles, and they gave light enough for young eyes like mine; then, as I grew older, we changed to lamps, and later to gas; and now we have the electric light, and I'm all right yet. I can read by that

THE GREAT MEDICINAL FOOD

# IMPERIAL GRANUM



PURE, DELICIOUS,  
NOURISHING  
FOOD

IS UNRIVALLED IN  
THE SICK-ROOM  
THE SAFEST FOOD FOR  
INVALIDS  
AND CONVALESCENTS.  
FOR NURSING MOTHERS.

INFANTS AND  
CHILDREN  
FOR DYSPEPTIC, DELICATE INFIRM AND  
AGED PERSONS.

SOLD BY DRUGGISTS • SHIPPING DEPOT • JOHN CARLE & SONS, NEW YORK

as well as I used to with candles. But what's to become of the children who begin with the electric light, that's what I'd like to know.—*New York Weekly*.

A lady who has been looking for the old-fashioned Christmas things that delighted her own childhood, says that candy mice have apparently vanished from the market, and that she cannot find a cup labelled, "Love the Giver," or "For a Good Child."

## RELIABLE AND PROMPT.

### Two Characteristics that Commend Scott's Emulsion to the Profession.

—there are more than two—but the fact that this preparation can be depended upon, and does its work promptly covers the whole subject.

Physicians rely upon Scott's Emulsion of Cod Liver Oil with Hypophosphites to accomplish more than can possibly be obtained from plain cod-liver oil. They find it to be pleasant to the taste, agreeable to the weak stomach and rapid of assimilation. And they know that in recommending it there is no danger of the patient possessing himself of an imperfect emulsion—Scott's Emulsion remains, under all conditions, *sweet* and *wholesome*, without separation or rancidity.

FORMULA: 50% of finest Norwegian Cod Liver Oil; 6 grs. Hypophosphite of Lime; 3 grs. Hypophosphite of Soda to the fluid ounce.

SAMPLE of Scott's Emulsion delivered free to the address of any physician in regular practice.

Prepared by SCOTT & BOWNE, Chemists,  
132 South Fifth Avenue, New York.



# KINGSFORD'S OSWEGO STARCH

The Standard of Excellence.

"PURE" AND SILVER GLOSS

For the Laundry.

CORN STARCH

For the Table.

ABSOLUTELY PURE IN QUALITY.

## TABASCO PEPPER SAUCE

OR LIQUID PEPPER.

IS SIMPLY THE PULP OF THE RIPE PEPPER EXTRACTED BY PRESSURE.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced by connoisseurs to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

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NEW IBERIA, LA.

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ESTABLISHED 1823.

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New York Office, - - - 78 Wall Street.

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We all think sometimes, but few can think of the right thing at the right time. At this very moment thousands are trying to think of something to offer a sick mother, brother, sister or friend. Did you ever think of using Burnham's Clam Bouillon in cases of weak stomach, indigestion, dyspepsia, nervousness, and for all forms of gastric troubles? Try it. The results will convince you that it will do what no other food or medicine can.

25c., 50c. and \$1.00 bottles.  
Druggists and grocers.

E. S. BURNHAM COMPANY,  
120 Gansevoort St., New York City.

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CHOICE

## CHICAGO DRESSED BEEF

AND

## MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

## RHEUMATISM AND NEURALGIA

are being constantly cured by Robinson's "Sura Cura," a positive antidote for all impure states of the blood. Price \$1, sent by mail. Send for circular.

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**PATENTS** HOPKINS & ATKINS,  
Washington, D. C. 20  
years' experience  
Write for information.



## ADVERTISING THAT PAYS.

When I buy advertising, I want to feel assured that the paper in which I have space goes to the men whom I desire to reach, and further that the people to whom it goes have a good opinion of it. I place my advertising on that basis. Make first-class goods, let everybody know where the goods can be had, and then treat your customers white is the way to get business.

### Where Do You Advertise?

"Doubtful goods are never advertised in reputable trade papers. Paste this in your hat."

"It's the character of the customers, not their number, that counts. Some eighty-acre farms produce more than an entire section of land."

### HAVE YOU RHEUMATISM?

Or do you know any friend or neighbor afflicted with any form of Rheumatism; if so, send his or her address on a Postal Card to the

PARISH CHEMICAL CO.,

Parish, N. Y.

Rheumatism has been conquered by them and they will prove it to you. It will cost but one cent to investigate this.

# FREE

to-day. Give waist measure, price and full particulars.  
Agents Wanted.

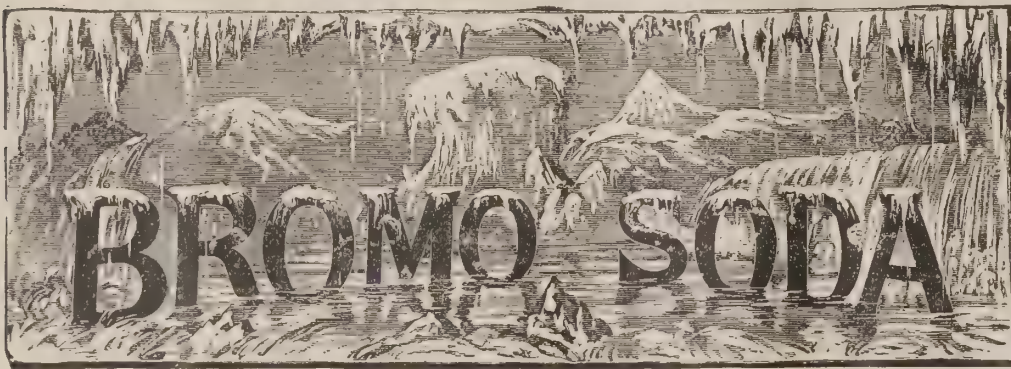
Trial. Why suffer from the bad effects of the La Grippe, Lame Back, Kidney and Liver disease, Rheumatism, Indigestion, Dyspepsia, any kind of weakness, or other diseases, when Electricity will cure you and keep you in health. (Headache relieved in one minute.) To prove this, I will send to any one on trial, free, DR. JUDD'S ELECTRIC BELT. Prices, \$3, \$6, \$10, and \$15, if satisfied. Also, Electric Trusses and Box Batteries. Costs nothing to try them. Can be regulated to suit, and guaranteed to last for years. A Belt and Battery combined, and produces sufficient Electricity to shock. Free Medical advice. Write

Address DR. JUDD, Detroit, Mich.

FOR THE SPEEDY RELIEF OF

## NERVOUS HEADACHE AND BRAIN FATIGUE

WARNER & CO.'S EFFERVESCENT



Useful in Nervous Headache, Sleeplessness, Excessive Study, Over Brainwork, Nervous Debility, Mania, etc.

DOSE.—A heaping teaspoonful in half a glass of water, to be repeated once after an interval of thirty minutes, if necessary. Each teaspoonful contains 30 grs. Bromide Sodium and 1 gr. Caffein.

It is claimed by some prominent specialists in nervous diseases that the Sodium Salt is more acceptable to the stomach than the Bromide Potassium. An almost certain relief is given by the administration of this Effervescent Salt. It is also used with advantage in INDIGESTION, DEPRESSION following alcoholic and other excesses, as well as NERVOUS HEADACHE. It affords speedy relief for MENTAL and PHYSICAL EXHAUSTION.

PREPARED ONLY BY

## WM. R. WARNER & CO.,

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A Weekly Journal for Advertisers,

Will be sent to any address for One Year for

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ADDRESS

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For five dollars a copy of the last issue of the American Newspaper Directory (1500 pages) will be sent, carriage paid, to any address, and the purchase of the book carries with it a paid-in-advance subscription to PRINTERS' INK for one year.

## RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, without the knife or risk. Diseased eyes or lids can be cured by our home treatment. "We prove it." Hundreds convinced. Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.

## PATENTS

GEORGE E. LEMON,

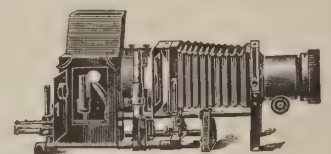
Lemon Building, Washington, D. C.,

Counsellor at Law, Solicitor of American and Foreign Patents.

Opinions rendered as to the novelty and patentability of inventions and validity of patents. Rejected applications prosecuted. All business relating to patents promptly attended to.

Established 1865. Send for 67-Page Pamphlet

For Pleasure



or Profit.

## CRITERION AND PARABOLON MAGIC LANTERNS,

and Stereopticons, OIL, LIME, OR ELECTRIC LIGHT, made by us, are simply perfect for PUBLIC or PRIVATE use. So are our Slides. We can fill the bill from A to Z in apparatus, Views and Accessories. Catalogues FREE. Mention this publication.

J. B. Colt & Co. 16 Beekman St., NEW YORK. 189 La Salle St., CHICAGO, ILL.

## THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents:

THE AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable. Address

AMERICAN ANALYST,

19 Park Place, New York.



# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

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Single Copies, - - - - - 5 cents.  
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Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

MARCH 15, 1893.

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### MORE MEDICAL SENSATIONALISM.

Ex-Surgeon-General Hammond has not been heard from for some time. He probably found his Washington sanitarium languishing for want of advertising. As he never expends any money for regular newspaper advertising and probably considers that as a would-be regular, his colleagues might take umbrage at ordinary business-like advertising, the worthy professor always gives a strong certificate to some other fellow, who he feels sure will consider the certificate strong enough to advertise it broadcast, and in order to attract attention to it will embellish it with a view of the professor's fine physiognomy or residence. Well, lately, there has been no one who wanted to do this kind of advertising, so Dr. Hammond has had to get up a new scheme: He has put on his thinking cap, and behold a new (?) idea in medicine is born and finds utterance in the *New York Medical Journal*:

"Organic beings possess the power of assimilating from the nutritious matter they absorb, the

peculiar pabulum which each organ of the body demands for its development and sustenance. The brain, for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles, and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor liver the brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and as a consequence, disturbance of functions, or even death itself, is the result.

"Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force."

An exchange in commenting on this says:

"The doctor gives in detail his process for preparing cerebrine or antiseptic extract of ox brain together with details in treatment.

"The first impression is, can such a thing ever be perfected until diseased or impaired portions of the body be treated with success by injecting a perfect like portion of an animal? Will such an original idea ever do away with our vast list of important remedies now in use and convert manufacturing pharmacies into slaughter houses?

"The idea of bringing science to the assistance of nature is not entirely new, for predigested foods, artificial gastric juice, etc., have long been in the hands of the physician, for bridging over irritations of the stomach or impaired digestion.

"The old theory of transfusion of blood borders within the range of the doctor's idea and had the advantage when it came to a question of antisepticism.

"From the extended reports received from government inspectors it would appear to be a difficult matter to obtain perfect brains or perfect hearts or lungs. The milk of cows swarming with the consumptive germ, the trichina of pork, the ever prevalence of pneumonia among the vast Chicago herds speak volumes of warning in the way of a general adoption of such treatment.

"What a limited, suggestive list a materia medica founded on that theory, would be. For instance, for corns you would give toeine, for pains in the stomach, stomachine."

It at once suggests the old joke of Mark Twain that his predilection for theatricals must be due to his having been brought up on goat's milk and that that particular goat had been browsing on theatrical bills—off the fence. So far, we have not seen the article noticed by the profession in the way of replies, hence judge that the professor's advertising scheme has failed.

### CIGARETTE LEGISLATION.

The following from the *Tobacco Leaf* shows to what extremes the cigarette trust has been pushed. When a cause has to be bolstered up by

reference to the ridiculous sides of entirely distinct subjects it shows its weakness.

As we have pointed out before the cigarette is an evil: first, because it forms a vehicle for the vilest tobacco and tobacco stems held together by lead-laden paper to be temptingly offered because of its cheapness to the ignorant and inexperienced and thus leads them to form habits which are injurious to health and morals; second, because it causes those who smoke these vile contrivances to become a nuisance to every one around them; third, because from the tendency of cigarette fiends to inhale the smoke and thus injure their lungs and throats, and lastly because from its low cost, size and convenience it is an ever present temptation to those who otherwise would not be able to smoke a decent pipe or cigar. Hence it ought to be legislated out of existence.

"The Legislatures of several States have been wasting their time and spoiling good paper by passing bills prohibiting the manufacturing and selling of cigarettes. The hoop-skirt bill in the Minnesota legislature, and the bill preventing the use of the French language in hotel bills-of-fare introduced into that of Ohio, are fine examples of what idiots legislators can make of themselves. The bills against cigarettes almost always rise from the dislike of the introducer of the bill against them, for it has been repeatedly demonstrated that the cigarette is not more injurious than any other article of tobacco, and are not drugged, as these legislators are fond of asserting. That cigarettes, like tobacco in any other shape, are injurious when immoderately used is not denied; but so are tea, coffee, liquors and other articles in common use. The bills preventing the sale and use of cigarettes to minors (they should be for all kinds of tobacco) are commendable and have the support of the trade; but when laws go beyond this object and encroach upon the rights of the man, they are absurd and unlawful, and have in every case, when passed upon by the courts, been set aside. The recent laws passed in Pennsylvania, Alabama, Ohio, Washington and other States will, when tested, be declared unconstitutional, for they are based only upon the prejudices of the legislators who enacted them, and their only effect will be the spending of money by the trade to have them set aside by the courts, unless, as it has been hinted, they are 'strikes.'"

### A HINT TO THE OFFICIALS.

Our attention was attracted to the following notice in a lay journal

The judge of a court in Hedvre, France, decided recently that an optician who gives a patient advice as to the condition of his eyes and prescribes glasses to remedy defective vision is guilty of the illegal practice of medicine, just as if he had ordered remedies or given medical advice without possessing a diploma recognized by the law.

As all good law is simply common sense, this is very good law. It is about time that the many optical fakers, so called opticians, spectacle peddlers, and venders of eye glasses had a stop put to their nefarious trade of mechanically fitting glasses by the simple tests of, can you see? for distance, and can you read? for nearby. More damage has been done by such fitting than by prescriptions for medicine from incompetent prescribers. It should be stopped.



## MEDICAL.

### A DEFENSE OF BORIC ACID AS A FOOD PRESERVATIVE.

Legal decisions in regard to the use of preservatives in food are not satisfactory, and this is doubtless due to the fact that neither law nor the authorities are definite about them. For example, the local Government Board have declined to advise that milk to which boric acid has been added is injurious, because they have "no facts within their knowledge" that it is so; but last week a Greenwich magistrate, on the evidence of an analyst, convicted, under the Sale of Food and Drugs Act, a milk seller for selling such milk.

So far as London is concerned, we do not view that decision with unmixed satisfaction. Milk is a universal food, and London depends for her supply upon the country districts for hundreds of miles around—even Holland contributing a share of the 115,000,000 gallons which are annually required to satisfy the more than five millions who dwell within the metropolitan area. The consumption of milk in the United Kingdom is 1,417,000,000 gallons annually, but 841,000,000 gallons of this are used in cheese and butter making. We should think that a comparatively small proportion of the milk used *per se* as a food is not preserved in some way; for as soon as milk is exposed to the air it begins to become acid, and when the acidity reaches 0.25 per cent of lactic acid (which it does in summer weather within twenty-four hours) it coagulates. Long before this the milk ceases to have the characteristics of "fresh milk." In view, therefore, of the time absorbed in carrying milk from the dairy farms to the consumers in large towns, it is obvious that something in the nature of a preservative must be added. In practice that is so. Bicarbonate of soda is very commonly employed. Its action is not that of an antiseptic; it simply neutralizes the lactic acid as it is formed, and thus prevents souring. On the other hand, boric acid, which is as extensively used, prevents the fermentation of the milk-sugar. According to A. W. Stokes, the quantity of acid required to preserve milk "sweet" for forty hours is 1 in 1,000, or, roughly, 7 grs. per pint. This factor has to be considered in any estimate of the value or otherwise of the addition; it means that each person in London takes at least 2 grs. of boric acid per day if all the milk contains the preservative. But a healthy "bottle baby" is equal to from two to four pints per day—i. e., 15 to 30 grs. of boric acid, which one may fairly regard as medicinal quantities. The use of salicylic acid in this connection need not be considered. We have examined a large number of milk preservatives and do not recall having found salicylic acid in any of them. The fact is that salicylic acid is not so effectual as boric acid. Sulman and Berry say it is useless for milk. Most of the preservatives are boric acid alone, but some contain borax also, which is an unwise and unnecessary addition.

That there are objections to the use of preservatives need not be argued; but what are the advantages? The souring of milk is a true fermentative change, the result of bacillary action; and the formation of lactic acid is accompanied by the production—at least in the later stages—of Vaughan's tyrotoxin, a highly poisonous albumose. Bicarbonate of soda is useless in preventing this change—it simply hides it—while boric acid is a true retarder of fermentation.—*Chemist and Druggist.*

A man with a bad liver very often has a good heart.

## COLDS.

BY PAUL H. KEMPF, M.D.

"Oh, it's only a cold!" How often do we hear this, and how much or how little it may mean! The most evident and simple things are the hardest to define. Every one knows what a cold is by personal experience; at any rate in this climate, where is found "the home of colds and catarrhs." The dull headache, the "stopped up" or "running nose," the tearful eyes and often the husky voice and the half deaf ears, constitute a cold in the head. Now we must distinguish between the cold as the effect, and cold as the cause. These two are often confounded. "A cold" is generally a congestion of the mucous membranes with an impairment of their functions. Thus a cough is produced by a congestion of the bronchial tubes and increased secretion of mucus by "catching cold," or a diarrhoea is produced by similar effects on the mucous membranes of the intestines. However, a cold may be a temporary derangement of any organ, brought on by cold. Thus a neuralgia may be produced by a draught of cold air. A cold is the border line between the heightened physiological action of an organ, and of its inflammation. A cold very often precedes an inflammation. Thus the laity, for whom I write, often say of one who has bronchitis or pneumonia, "he caught a cold and it settled on his lungs." Now for cold as a cause. It is not necessarily a low temperature, but oftener a sudden change in the temperature that causes a cold. And especially is this the case when the sudden change in the temperature is accompanied by a draught of air (the smaller and more concentrated the more effective); this without a drop of the mercury at all, will cause a cold. For instance, I have slept in a room without fire in cool weather; with but one little window open for ventilation. A current of air through this was directed towards my bed, and I awoke in the morning with a beautiful article of cold in the head. The entire cuticle of the body receives the brunt of cold, speaking of cold as a cause. The surface of the body is chilled, the blood driven into the internal organs, they are congested, and you have your cold. Especially is this the case when the skin is aglow and in perspiration and then exposed to cold or a draught of air. After a brisk walk in the sunshine you are hot, perspiring, and somewhat fatigued. You enter a cool room, throw off some of your outer garments, and recline in delicious ease on some comfortable chair or sofa. You may even go to sleep, and in a short time you have a genuine cold in the head, throat, stomach, intestines, nerves, any organ. Again, a cold may be contracted by a long exposure to a low temperature, especially when insufficiently clad. Colds from this cause are the most severe and are liable to develop into genuine inflammatory diseases. Having perceived the underlying principle in all cases, and the essential nature of colds, let us see how we are to guard against them. The mother who is most careful of her child and dresses it very warmly, and keeps it indoors in the least inclement weather, and coddles it, and has the rooms very warm, is the one who causes the very thing she wishes to prevent. This child is very prone to catch colds, and severe ones too, should by accident any of the causes of cold bear on it. An Indian who was out in all kinds of weather in a severe climate, with seemingly but insufficient apparel, was asked why he did not mind the cold. "I am all face" he answered. The face is always exposed, and unless it is very cold indeed, we never feel the cold unpleasantly there. People that lead out-door lives, and

especially those that are out all day, summer and winter, very rarely contract colds. Colds afflict mainly the sedentary, lazy, luxurious-living indoor people. After sitting all day in a warm office, the book-keeper hurries across the street in the cold winter evening to catch a car—and a cold. Regular outdoor exercise the year round, for such a length of time as circumstances dictate, is one of the most potent means against colds. Rain or shine, hot or cold, damp or dry, go out and overcome the conditions of the weather. This brings us to—

Dress, a very important point. I have often wondered on a cold wintry day, as I walked or drove along the streets, that the little girls and big ones too, did not freeze to death on their way to school. Short dresses and thin stockings, and the temperature down to 14 deg. The dictates of fashion are often foolish. The under-clothing requires the greatest care. Change of clothing, under and outer, should of course be made in accord with the season, but more especially with the change in the weather from day to day. Silk stockings are the best for those that can afford them, as they are warmer than cotton, and do not cause perspiration like wool. The shoes should be soft, roomy and heavy in winter. Tight shoes interfere with the circulation, and cause cold feet. Tight shoes and the high French heels set in the middle of the shoes to make the feet appear smaller, are not only causes of diseases bodily, but also of the mind, according to an eminent neurologist. I sometimes fancy that the wearing of these shoes is an evidence of co-existing mental trouble or weakness. When it is very cold over-shoes or "arctics" should be worn. When it is snowing or raining and the ground is slushy, rubbers should be worn. These must be conscientiously removed upon entering the house. To wear rubbers constantly simply to keep the feet warm is an abomination unworthy of civilization. They ruin the feet by rendering them excessively tender. Perspiration and respiration go on, and there is no avenue of escape for these exhalations. Wear rubbers as little as possible and only to keep the feet dry. People subject to rheumatism, neuralgia or bowel troubles should wear woolen underclothing all the time. Nowadays one can get these at the stores ranging from the very lightest to the very heaviest garments. In summer of course the former should be worn, and in spring and autumn the medium weights. Then these should be replaced by heavier or lighter wear as any sudden or extreme change may indicate. Our climate requires a great deal of dressing and undressing. To many of my readers it will seem ridiculously superfluous to state that one should never sleep in the under garments worn during the day. But a number of people, even of the better classes, require this warning. Night-gowns and shirts are indispensable. During the night the day-garments should be thoroughly aired.

About the outer clothing, those that "make the man" in the eyes of some people, little need be said. But an overcoat should never take the place of a heavy suit of underwear. The outer garments should be seasonable and as soft and light as is conducive to comfort. The head-covering should never be too heavy; and fur caps, ear mits, and heavy comforters are to be used only in the very coldest weather. The skin should always be active hence it must always be kept clean. It is not meant that sensible perspiration should always be present; but the insensible, always. Dry friction and frequent change of the bed and underclothes, take the place of baths to a great extent. But baths are the *sine qua non* of healthfulness. A bath once



a week is good, once a day is better. At what temperature should the bath be? For delicate children and invalids agreeably warm followed by a cold douch of short duration and then brisk friction till all the body is aglow. For strong men and women, a cold bath followed by friction is the ideal one, and the one that will prevent colds. The best time for bathing, and especially cold bathing, is in the morning upon rising. The bath may be taken at 60 deg. or much lower; the room should be at 65 deg. or 70 deg. But habit has a great deal to do with this. I have a cousin, young, strong and healthy, who took a plunge-bath in the river every morning, from the balmy days of May till the freezing days of January and he never enjoyed more perfect health. Warm baths should be taken at night before retiring. The feet should be frequently bathed in cold water and then rubbed very briskly with a coarse towel. The general morning toilet, bathing of face and hands, should be done with cold water followed by brisk rubbing. When one has to go out soon after breakfast to face the wintry weather, he will find that after having used very cold water followed by friction, he will scarcely feel the cold. Whenever reaction does not set in speedily after a cold bath, on next occasion the time of immersion should be shortened, and if that be not sufficient the temperature of the bath must be heightened. Too long a time must not be spent in the warm bath, as that enervates the system and renders the person peculiarly liable to colds.

The woman of fashion and society who wears little more than the traditional fig leaf in the salons, and parlors and dances, and partakes of stimulating drinks, should be very careful to cool down a little before she enters the carriage for her ride home in the cold winter morning. And let her cloak, mantel or coat be close fitting, large and very warm. And let those tiny silk and kid encased feet be snugly wrapped up; and do not let her go to sleep before she reaches her own warm luxurious couch. Many a pretty, useless flower has been nipped in the bud by a cold contracted in the pursuit of pleasure. One-fourth of the so-called cases of consumption trace their origin to this fact; and the worst of it is, they deserve but little sympathy. All this may be trite, but it is true.

To sum up. Keep your skin clean and warm, your feet dry, your head cool, your mind contented, your apartments lighted by sunshine, and sweetened by fresh air, and avoid or combat all sudden changes in the temperature and draughts of air, especially when your skin is highly active. Avoid excesses of all kinds. Never sleep without sufficient bed clothing to keep you comfortably warm. A cool room properly ventilated is the best to sleep in. It is a good general rule to depend more on clothing than on fire to keep warm. Fire is permissible in a bed room to aid in ventilation or for weakly people; but the temperature should not be above 65 deg. at night. A few practical hints for the cure of colds at their beginning, and I am through. You will find when you have a cold that the skin has ceased to properly perform its functions. Hence originates the old time remedy of "taking a good sweat." Pardon the Anglo-Saxon term. Before retiring at night take a hot foot bath, to which you have added a little salt or mustard; drink a hot cup of tea, or a hot lemonade, and sleep between blankets; and very often in the morning your cold has left you. Be doubly careful that day, however, as your skin has been rendered delicate and sensitive. Five or ten grains of Dover's powder at night will frequently cure a cold on the same principle. Ten grains of quinine in the very beginning is very

good. But I am encroaching upon the domain of your family physician. Only he can properly use those powerful remedies and sometimes specifics, aconite, gelsemium and veratrum viride. If a cold "hangs on," consult your physician. You may thus avoid many days of sickness and even death.

It may be as well to add right here that as the season advances when colds are prevalent, one word for the care of handkerchiefs may not be amiss. From catarrhal diseased matter, deposited upon handkerchief of one member of a family, a cold may spread amongst the members of the entire household. Careful observation of above fact has led to the habit of isolating handkerchiefs of the one unlucky individual who becomes affected by popular "influenza," in a family where some of its members rally slowly when affected with colds. The soiled handkerchiefs should be kept separate, boiled in water and otherwise disinfected before being mixed with the other wash.—*Pop. Med. Monthly.*

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### SALMON SALAD.

One and a half pounds cold boiled or baked salmon that has been minced, a head of celery cut in nice pieces, mixed together and arranged in a dish on some nice leaves of lettuce. Just before serving pour the following dressing over: The yolks of three hard-boiled eggs, mashed with two tablespoonfuls salad oil, then add one teaspoonful salt, and same of cayenne, one teaspoonful white sugar, one of Worcestershire sauce, one of made mustard, one teacupful vinegar. Add the pepper according to taste.

#### GERMAN PUFFS.

Three cups flour, three cups milk, three eggs, whites and yolks beaten separately, three teaspoonfuls melted butter, one saltspoonful salt. Pour in nine well-buttered cups, the same size as that used in measuring. Bake until nice brown. Serve with sauce.

#### COTTAGE PUDDING.

Put one cup sugar and one tablespoonful butter together, then add two eggs that have been well beaten, a cup of milk, a teaspoonful salt, half teaspoonful soda dissolved in the milk, and one teaspoonful cream tartar sifted in three cups flour. Bake in buttered tin.

#### ROAST BEEF WITH YORKSHIRE PUDDING.

Set a piece of beef to roast on a grating or several sticks laid across a dripping-pan. Three-quarters of an hour before it is done, mix the pudding and pour into the pan. Continue to roast the beef, the dripping meanwhile falling below. When both are done, cut the pudding in squares and lay around the fat on the platter. If there is too much meat in the pan when the pudding goes in, drain a little off, leaving enough to keep from sticking.

*The Pudding.*—One pint milk, four eggs, yolks and whites beaten separately, two cups flour, one teaspoonful salt. Be careful not to get too stiff.

#### BAKED EGGS.

Break six or seven eggs into a buttered dish, taking care that each is whole and does not encroach on the others. Sprinkle with pepper and salt, and put a bit of butter on each. Put into an

oven and bake until the whites are well set. Serve very hot, with rounds of buttered toast.

#### RICE MUFFINS.

One cup cold-boiled rice, one pint flour, two eggs, one quart milk or enough to make batter thin, one tablespoonful lard or butter, one teaspoonful salt. Beat hard and bake quickly.

### LAUNDRY HINTS.

TUBS, WRINGERS, BOILERS, WASHBOARDS, CLOTHES-BASKETS, FLAT-IRONS, SPRINKLERS, LAUNDRY IRONING STOVES AND IRONING TABLES.

By Martha McCullough Williams in *Baltimore News*.

[Concluded.]

#### CHOOSING FLAT-IRONS.

Regarding flat-irons—"sad irons" our grandmothers used to call them—the one essential thing is the face. That must be smooth and must be kept clean and free of rust. There ought to be a full dozen of them for a family of even ordinary size. Hot irons a-plenty save time and temper world without end.

Choose irons with faces of polished steel. See to it that the handle is high enough to save the fingers grasping it from contact with the iron's upper surface.

Get a half dozen, from six to seven pounds in weight, and try the face of each with your naked palm to be sure that it is flawlessly smooth. Next get two polishing irons for collars, cuffs, shirt fronts, and so on. Next a couple of five-pound irons for delicate tissues, and two of the smaller size, known as trimming irons.

There are various patent irons in whose favor much may be said. One set has a removable handle of wood, thus obviating the necessity of a holder. Another is a shell of highly-polished iron, inside of which pieces of cast-iron that may be heated in the fire instead of on top are slipped and changed as their heat is exhausted. With such an iron only one of a size is needed. There are twenty varieties at least along these general lines. All and several they are excellent good things, but require carefully intelligent usage. Besides, the cost is much more.

If possible never let the face of your iron touch a red hot surface nor live coals, also do not leave them too long. Long continued high heat occasions molecular changes that in a little while will break up the surface, so that under the microscope it shows fine honeycomb pits.

Dirt and damp are even more fatal to long usefulness. Wherefore keep them religiously away from the closet floor and the space under the tubs. The best possible place for them is a stout box set on end with clean board shelves nailed inside just far enough apart for an iron to sit upright on them.

Wash and dry your irons thoroughly as soon as you have done with them; rub each all over with a bit of clean flannel wet lightly with kerosene, and set them facing inward on the shelves of the box, putting of course the heaviest ones to the bottom. The good looks of your linen depends much on the care you take of your flatiron.

#### THE BEST SPRINKLERS.

When the wash is a heavy one a small-sized watering pot with the finest nose made comes mighty handy for sprinkling. It is very much better than the tin clothes sprinkler sold in the shops. The ideal sprinkler, though, is a good-sized rubber atomizer, such as is used in green-houses for handspraying plants. Choose one whose bulb your hand will readily grasp. The fine spray of it damps clothes beautifully with-



out making the patches sopping wet, that every laundress knows is vexatious of spirit.

#### LAUNDRY IRONING STOVES.

Where circumstances allow, have always a special place for heating irons. If it needs must be that the range is used, see that the fire is clear and solid, not flashy, and the surface of the range free of anything that can produce smear or smut.

Laundry stoves, for using either gas, coal, gasoline or kerosene, are to be had at moderate prices in great variety. The house mother who is her own laundress will find that for hot weather a portable affair which can be set up away from the steamy kitchen is as the shadow of a great rock in a weary land. One oil stove that takes hardly a square foot of space has a conical top with sockets all around to hold the irons in place. The cost of it is only \$4. It might be set up just outside the door of a hall bedroom, with the ironing table inside, where the mistress of it can get through with her work with ease as astonishing as it is delightful.

When gas is to be had the long stove with perforated burners, over each of which an iron can be heated, is little short of a godsend.

#### FITTING UP THE IRONING TABLE

Next to the tubs in importance is the ironing table. Every woman ought to choose her own, and see that is of a height that she need not stoop to her work. See also that the deal is free of knots or warping; that the joints are true and stanch; that the drawer slides easily in and out.

The size, of course, is largely determined by the space at command, but it is never wise to have an unwieldy thing, the bare sight of which brings a headache.

To furnish your table get first a soft, coarse, loose-woven wool blanket, and shape it to exactly twice the size of your table top. The best way is to fold it, then lap the fold along one edge of the table, smooth it over the others and cut to size. Baste the cut edges tightly as it lies, taking care that the upper part lies smooth upon the under. Now sew upon each corner a square of stout cotton doubled up to form a triangle.

It should not be more than two inches deep after doubling. Its use is to slip over the corners of the table, thus holding the blanket in place. When the blanket is washed the squares are ripped off and edge basting removed.

Next make three covers for the table of smooth unbleached muslin. Cut them the size of the top, allowing three inches over all around. Lay the blanket upon the table, spread on a cover, draw it tight under the edges, and lap the corners to hold it in place. Cut away the surplus muslin of the corners, leaving space for a good seam.

Sew three of the corners fast; either side the fourth; work eyelets and lace a string back and forth. The string is to admit of cutting the united points over the corners of the table. After the other three are in place draw it tight, tie the ends, and you have a smooth bed without the everlasting worry of pinning. You need, as has been said, three or four of these cotton covers.

#### VARIOUS IRONING BOARDS.

Cover shirt and sleeve boards in much the same way—first with shaped double flannel sewed firmly in place, then with removable muslin slips sewed up at the small end and laced together over the large one. Take care to fit the covers so accurately that both sides will be smooth enough for use.

You need also a bosom board, either square or shield shaped, covered smooth with double flannel; also for trimmings a square of the thickest cardboard covered four-fold with soft flannel. If there are many children's clothes, a very small

skirt board comes handy; also two or three sizes of sleeve board, each in its flannel cover.

In addition provide your table with an open iron trivet; a loose clean cloth for wiping and testing irons; at least three holders, so as to change and escape heating the hand; a shallow wooden box with salt in the bottom and a division at one end for your bit of wax.

If all these things are supplemented with a dependable folding clothes-horse of clean white wood, a good store of clothes pins, a big earthen bowl and sundry wooden ones, the laundry may be held reasonably well appointed.

The mangle and the fluting machine require an article to themselves.

#### TABLE TALK.

It is quite a fashion of the moment to have bouillon cups alike in shape, but different in color and design—a caprice that has its economical side in cases of breakage.

A novel apparatus for frying oysters consists of two perforated sheet-metal pieces with depressions to correspond to the shape of the oyster, the portions of the sheets between the molds fitting against each other.

Eat all cold food slowly. Digestion will not begin till the temperature of the food has been raised by the heat of the stomach to 98 degrees. Hence, the more heat that can be imparted to it by slow mastication the better.

In the mediæval kitchen, economy and convenience preferred the pot to the spit, and for one dish cooked with the latter twenty messes came from the former. Broiling doubtless preceded roasting, and it is probable that before meat was exposed to the fire on a spit primitive roasters hung their flesh before the flaming fuel by means of a strong and coarse board.

An icing for cake that is popular among French and German cooks and that is economical because it calls for no eggs, is made from a half pound of powdered sugar, a teaspoonful of boiling water, the grated yellow rind of an orange, and enough orange juice to moisten it. Put the sugar in a bowl, then add the rind, next the water, and lastly the juice, and use at once.

Veal sweetbreads are most generally used in this country, but lamb sweetbreads are fully as good, though not as large, and are fully as often used in France. In whatever way they are cooked they should always be blanched; that is, soaked for three hours in cold water, changing the water every hour and bringing the sweetbread to the boiling point in the last water and boiling it five minutes.

#### POISONINGS BY "INFANT'S CORDIAL."

The frequent occurrence of the fatal poisoning of infants in consequence of the incautious use of narcotic preparations known as soothing syrups, infant's cordials, etc., is one among many proofs of the need for a more stringent administration of the law relating to the sale of poisons. Three cases of this kind have recently been the subject of inquiry before coroners at Leeds, Stourbridge, and Oldham. As is commonly the practice, the verdict of "death from misadventure" was accompanied by a recommendation from the jury that measures should be taken to prevent the promiscuous sale of such dangerous compounds by unqualified persons. But unfortunately it is seldom that anything further is heard of these

recommendations, and the mischievous trade goes on unchecked. However, in the Stourbridge case, the coroner stated that he would represent the matter to the proper authorities, and we trust that it may receive from them the attention that it demands. The evidence in the Oldham case showed that the cordial was sold without a poison label, and by an unqualified person. There is no doubt that this is very generally done, and though these preparations are administered to children by ignorant persons without ill intention, their use is attended with great danger, while the sale of them exposes the vendors to serious risk. In this case the coroner pointed out that if the death of the child had been conclusively proved to be due to narcotic poisoning, both the seller and the maker of the "infant's cordial" might have found themselves in a very awkward position. But the most serious feature of this case was the statement of the maker of the "cordial" that it did not contain opium or any thing of that kind. Upon analysis, however, morphine was found in it, and the attempt to mislead the court was justly stigmatized by the coroner as a disgraceful attempt to conceal the twofold breach of the law which had been committed by the unqualified vendor of the "cordial" and the maker of it, who supplied it without being properly labeled "poison." The coroner's censure of the whole proceeding should be a warning to persons who have been in the habit of selling these dangerous preparations, and it is to be hoped that his declared intention of taking immediate steps to bring the matter under the notice of the Pharmaceutical society will have the effect of inducing that body to take further proceedings against the offenders in this case.—*British Medical Journal*.

#### ENGLISH TINNED MEATS.

Our English contemporary the *Vegetarian*, takes great pains to hunt up all the reports of injury from eating flesh. The following are some of its latest successes:

ACUTE POISONING CAUSED BY TINNED OX TONGUE.—In the *British Medical Journal*, Dr. Edmund Gwynn, M. D., the medical officer of health, Hampstead, gives the following account of a recent case: "A freshly opened tinned ox tongue was placed before Mr. X, his wife and two children for breakfast on November 14, 1892. Upon carving the tongue, Mr. X perceived an unusual appearance and odor, and stopped Mrs. X and the younger child, aged four years, from eating the portions already served to them; they had only just tasted it. Mr. X then divided an omelette with the fork that he had used in carving the tongue. About noon on the same day the younger child was seized in the street with uncontrollable vomiting and purging, and was brought home in a state of collapse. Soon afterwards Mrs. X had severe abdominal pain, violent sickness and purging and fell upon the floor in a state of collapse, dejecta running from her. The elder child, aged six, was sick in the afternoon, and Mr. X felt sick towards evening, and became faint with cold sweats. These two latter had not tasted the tongue, but had eaten the omelette which had been divided by the infected fork. The family attendant, Dr. W. Boulting, to whom I am indebted for the foregoing particulars, found Mrs. X, upon his arrival, cold and pulseless, vomiting occasionally, and complaining of giddiness; the diarrhoea continued for some days, and left tenderness in the abdomen, with pain upon pressure over the right side. The child, aged four, fell into a profound stupor, from which she could not be roused for some hours. Dr. Boulting further in-



forms me that Mrs. X (eight days after the attack) still continues ill; directly she attempts to eat solids she has increased pain and passes blood. At first the temperature was subnormal—in the evening of the first day 99.5 deg.; afterwards normal or slightly below normal. The others ultimately recovered in a day or two. I found the tongue to be soft, wet, pappy in parts, dull in color, with an absence of the jelly which is generally found in these tins. The microscope showed portions of it to be much decomposed, and the muscular fibres to be quite broken up. The tongue was submitted to Mr. H. W. Stokes for analysis, who pronounced it to be a most virulent and highly poisonous sample of tinned meat. The meat was saturated with salts of iron, due to the corrosion of the containing tinned iron vessel, caused by the action of the decomposing meat on the vessel. No other metal could be detected. As evidence of its great poisonous power Mr. Stokes' assistant, 'to see what it was like,' took a piece not larger than a shilling; in five hours he was seized with violent vomiting, diarrhoea and giddiness, the vomiting recurring for thirty hours afterwards. There are several points of interest in the above cases. (1.) The extremely minute quantity of infective matter that affected Mr. X and his child, which could only have been derived from the fork that had been used to divide the omelette; (2) the number of hours (eight) that intervened before Mr. X became affected; (3) the great resemblance which the attack bore to an outbreak of choleraic diarrhoea; indeed, had cholera been epidemic or near the neighborhood at the time, much alarm might have been occasioned. [Clearly a case of poisoning from ptomaines—the tongue evidently was spoiled when canned, and so the canning had nothing to do with it.—ED. AMERICAN ANALYST.]

**TINNED FLESH FOODS.**—The London correspondent of the *Manchester Guardian* says: "In the case of Lieutenant Huddleston, who died at Chatham barrack after eating tinned sardines and caviare, the sardines were ultimately incriminated and Dr. Stephenson extracted from them a poisonous substance fatal to some rats and mice, who died with symptoms similar to those of the unfortunate officer. Apropos of this comes a report of an investigation of suspected caviare from the bacteriological laboratory of Professor Fraenkel, of Marburg. Caviare is largely consumed in Germany, and Dr. Fraenkel has made the reassuring announcement that although caviare is not free from bacteria, they are of a harmless kind. He announces, too, that the famous cholera bacillus, even in large quantities, quickly perishes in caviare, so that in cholera times this is likely to prove a favorite food. The whole question of food poisoning requires thorough investigation, and, looking to the large consumption of tinned foods by the working population, it is important that this should be carried out without much longer delay. More than a dozen cases have been recently reported of poisoning by unsound food, and no doubt a much larger number of cases of severe illness occur in which the cause is either unsuspected or unreported."

**DISEASED MEAT AT MIDDLESBOROUGH.**—At the Middlesborough police court, November 28, a butcher was charged with having in his possession part of the hind quarter of a beast, intended for human consumption, which was unfit for food. The offence was committed as far back as June 25, when Mr. George Anderson, inspector, found the beef on a stall in the market-place. He instructed an assistant to watch the meat, which

defendant shortly afterwards placed upon his shoulder and was making off, when he was pursued and caught by the inspector. The meat was examined, and ordered to be destroyed. He had been previously fined £15 and £3 for similar offences. The Bench said the case was a most serious one, and they were not disposed to give defendant the option of a fine. A sentence of three months' imprisonment was passed, and an additional month in default of paying costs, which amounted to £5 10s.

## HYGIENIC.

### WHAT SHALL WE WEAR?

What to wear is a question not easy to determine. It is just as difficult as it is to determine what the weather is going to be. Who can tell what a day is going to bring forth? It is only by adopting suitable wearing apparel that we are at all able to combat our climate; and we cannot do it then. Nor is the question of clothing only a question of comfort or appearances, but it is one of health *par excellence*. Beauty in dress, or style in dress, may indirectly contribute to comfort and even to health, but the quality and the nature of our garments are to the delicate, and even to the strong, of vital importance, for our clothing, especially our underclothing, is the only means we have of preventing chills.

Too much clothing is a mistake. Many wear themselves out by the weight of their clothes. Poor people are especially given to this habit. Garment after garment is heaped on with the result that chilliness is produced. The first effect is to produce undue warmth and then perspiration, and the blood being drawn to the surface of the body a great loss of heat is the result. So that, strange as it may appear, too many clothes are as bad as too few. Clothes do not give warmth, their only object is to prevent the body imparting to the cold surrounding atmosphere too much of its heat. The fewer and the lighter the garments that can accomplish this end, the better for the wearer. The first question that arises is what is the best material to wear next to the skin? What is the best underclothing?

On this point there is considerable difference of opinion. Practically our clothes are only of two kinds; those made from vegetable material, or cotton, and those made from animal's wool, or silk. Man being an animal, some maintain that the nearer we get to the covering nature provided for them, the better it will be for us. Others again hold that man should be a vegetarian, even to his clothes: that if nature had intended us to be like other animals, it would have covered us with fur or hair.

This is a question that cannot be settled by theory; experience and common sense will help us better than anything. Science even cannot do much to help us, though it may help to decide some minor points.

The question of clothing more or less resolves itself into this: What are good conductors of heat, and what are bad? Experiments easily determine this. Silk, wool, or cotton, or a mixture of these, forms the material out of which nearly all our clothes are made. Silk is a very bad conductor of heat, next comes wool, then cotton. Silk then is the ideal clothing, but expense prevents its general use; it also has the advantage of lightness. For underwear, then, silk should where possible be used. We know of no objections to it. The same cannot be said of wool. Wool is irritating to the skin, is apt to draw the blood to the surface, and does not readily absorb perspiration.

This is a great drawback to its use. On this account many think cotton or a mixture of cotton and wool makes a much better material for underclothing than pure wool. In settling this question it is certain there are other elements to consider besides the mere conductivity or non-conductivity of the material used. Air itself is one of the best non-conductors, therefore too closely knitted or too-tightly fitting garments next the skin are a mistake.

Writing to a contemporary Professor Randle, speaking on this subject, says:—

Dr. Franklin considered an air bath almost equal to a water bath in its benefit to the skin. That there is some truth in this, is almost self-evident. Perspiration, both sensible and insensible, should be removed from the surface of the skin as fast as it gathers there; but as we cannot do this, we should resort to frequent bathing and all other convenient means. When the skin is exposed to the atmosphere all the volatile elements of its perspiration are rapidly removed by evaporation, and the salts and other solid compounds held in solution are left in a more or less dry state upon the skin. When the skin is not thus relieved, a scurf soon gathers upon it. To prove this try the following experiment: After you have gone some days in warm weather without bathing, and when you are a little warm with perspiration, roll up your sleeve and rub the skin; you will find this scurf will collect in little rolls, profusely on the upper portion of the arm, and but slightly near the wrist, where ventilation has been much better; and so over the body, wherever ventilation has been good, but little of this scurf will be found.

This suggests at once that it is better not to have our underwear fit too closely. The ankles much oftener itch than other parts when exposed to the air, because the socks worn closely fitting confine all the perspiration under them to the skin. Knit underwear usually fits the skin closely and therefore cannot be recommended for health. One using it should bathe at least twice as often as if wearing more loosely-fitting goods. Tightly-fitting underwear often produces an itching, especially when first taken off, hence, you will often see people scratching their body on first going to bed at night.

The knit skirt is much worse for a man of sedentary habits than for one of active life, for the motions of the latter form some circulation of air under the skirt.

Dr. Neely of Memphis formerly wrote some learned articles on the "winter itch," and stated that men of sedentary habits are much more subject to it than others. I suggest that some of these cases of winter itch are caused by the use of knit underwear. I have known some promptly relieved by the use of looser wear.—*Pop. Med. Monthly*.

### ARE HOT DRINKS INJURIOUS?

SOME CHICAGO VIEWS ON THE SUBJECT.

The *Chicago Tribune* having investigated reports as follows:

There are different views held by different people on this subject. Among saloon men and bar-keepers the generally expressed opinion is that the hot drink is a healthful drink for the winter months, and that a hot Scotch, a "Tom and Jerry," or a hot rum punch not only produced a delightful glow and a feeling of good fellowship, but they made the persons who swallowed them happy and contented and with nothing more to wish for unless perhaps unless it might be more of the same.

Physicians charge many diseases to the hot



drinks, and include with the hot drinks as beverages to be shunned the drinks that are iced or are below the normal in temperature. The consensus of opinion among medical men is that where wines and liquors are used they should be taken into the stomach at practically the same temperature as that of the room in which they are drunk.

"There is nothing so healthy as a drink of good Scotch whiskey mixed with hot water and sugar," said one of the barkeepers of the Grand Pacific the other day, "providing it is taken properly and the person drinking it takes proper care of himself afterward. A man should never take a hot drink and go immediately into the cold air, as the chances of his taking cold are much greater than in taking cold whiskey. In the country you will find farmers much given to hot Scotch whiskey before going to bed. It has a good effect on the digestion if not taken in too great quantities."

"There is no doubt that hot drinks are much better in winter than cold ones," said the manager of the Auditorium bar. "Men who have been drinking hot Scotch for years bear me out in the statement. I have never heard of bad effects from drinking hot drinks."

Dr. W. Tallman, the house physician at the Great Northern Hotel, holds views that are diametrically opposed to the saloon men. "I would advise all people to shun hot drinks," said Dr. Tallman. "They are immeasurably worse than drinks at a normal temperature, particularly in the case of drinks of which alcohol is a component part. Hot whiskey is quickly absorbed, and the combined heat of the alcohol and the artificial heat makes it doubly heating and stimulating, and absorption is so rapid that it produces intoxication very quickly. When their use is continued there is as a result catarrhal inflammation of the stomach and an undue inflammation of the mucous membrane of the stomach and of the bile ducts of the liver. The absorption is so rapid that there is an imperfect digestion of the alcohol which enters the blood in a more poisonous condition than it would if slowly neutralized and absorbed when taken in a cold state. It is a fact that in hot drinks we have the foundation laid for many cases of pneumonia, as it has been demonstrated in nearly every expedition of arctic explorers that men stand cold much better who do not use alcoholic stimulants than those who do. It produces a greater congestion of the brain. At night the blood pressure is reduced from one-quarter to one-half and the effect of hot drinks is to keep up the blood pressure, and there is not that relaxation needed for the complete rest of the body and brain."

"Europeans look upon Americans as uncivilized because of their plan of drinking. In France, in Italy, in Germany and in other countries in Continental Europe the drinking of wines and liquors is down to science. There, hot drinks or drinks that are iced until the temperature is many degrees below normal are looked upon as little short of a crime. The Frenchman, for example, dilutes his claret with an equal quantity of water and he drinks that as well as cordials or spirits at a normal temperature. Then, too, he sips the wines and always eats while he is drinking. The consequence is that their drinking is rarely injurious."

"The temperature of wines and whiskies at which the best results and the least injury may be expected I would give about as follows:

	Degrees.
Champagne.....	55
Clarets.....	60 to 70
Whiskey.....	62
Carbonated wines.....	50

Non-carbonated wines.....	55
Brandy.....	55 to 60
Beer.....	50
Ale.....	52

"All these, except champagne and the beer and ale, should be diluted. It is a fact that overheating or over-refrigerating destroys the flavor and nearly paralyzes the sense of taste, and thereby the pleasure of taking is lessened greatly by the two extremes of heat and cold."

Dr. E. A. Evans, the house physician of the Palmer, said: "Hot drinks are very injurious to the system unless great care is exercised by the person taking them. Under a physician's directions they may be of great benefit, particularly in cases of indigestion, but patients are never given hot drinks except where there is a nurse to watch the temperature and provide against the patient taking cold. A hot drink will open the pores of the skin and start the blood circulating, and the least draft is liable to clog the pores of the skin and bring on a severe cold. A person breathes through the pores of the skin, and they should be kept in good condition. The breathing through the skin is almost as important as the breathing through the lungs. Hot drinks have much the same effect on a lessened scale as a Turkish bath, and all physicians agree upon the care one must take to prevent a cold after taking a Turkish bath. As the hot drinks are usually taken I consider them extremely dangerous."

## MISCELLANEOUS.

### CARE OF THE HAIR.

#### HAIR TONICS, DYES, ETC.

The hair, as an appendage and ornament, has demanded the attention of all generations. The women of antiquity gave much of their time and attention to the dressing and arranging of their hair. The Bible tells us of the fact that early in the history of the race the hair was carefully attended, adorned and ornamented, and along the centuries we discover, on papyrus and in painting, on stone and in story, that attention to the hair has been a marked characteristic of the women, and not a few of the sterner sex as well.

It is not our present purpose to write a treatise on the hair, nor is it our design to endeavor to exhaust the subject. We propose to offer a few suggestions on the care and treatment of the hair and to give a few formulas, the foundation blocks, so to speak, upon which one can build even better than the writer.

#### THE CARE OF THE HAIR

Too much emphasis cannot be laid on the fact that the hair should be cared for intelligently, appropriately and regularly. It should be cleaned in tepid water once every week, and once a month—presuming there be no disease like abundant dandruff or other scalp trouble—with a very mild solution of some simple alkaline substance like borax or bicarbonate of soda.

It is always better to wash the scalp and hair before retiring, as the opportunity for drying it is better, especially if the hair is thick or heavy, and there is less likelihood of taking cold. Many of the finest suits of hair we have ever seen have been preserved and kept beautiful by the simple use of tepid or cool (not icy) water, the year round, at the morning toilet. As with everything else, so with the hair, good judgment must be the guide. The fine comb, as an article of use for the hair, should never be thought of; the center of a hot fire is the place for a fine comb. A good brush is the great tonic for the hair.

#### DRESSING THE HAIR.

Some writers utterly prohibit the use of oil or grease on the hair; others unduly magnify the advantages of its constant application; but between abstinence and unlimited use is the true plan. Some hair is harsh and dry, do for it what you will; such hair requires the occasional application of oil; other hair is always oily and "just right;" for the latter very little "dressing" is required.

#### PRESERVING THE HAIR.

To keep a "heavy head of hair" is the desire and delight of every one. The law of heredity excepted, there is no reason or cause why so many should be bald or have thin or "patchy" hair. Carefully attending to the hair, having it trimmed at regular intervals, keeping the scalp clean, never allowing a barber to use other than your own brush and comb in arranging your hair, avoiding the constant wearing of a hat—these are all contributing influences toward the preservation of the hair "e'en down to old age" and the grave.

#### DYEING THE HAIR.

As Sydney Smith said to the young man who asked him concerning marriage—don't—so say we about dyeing the hair—don't. If you must, choose some one of those made by a reputable house.

#### FAMILY HAIR TONIC.

Castor oil.....	1 pt.
Alcohol.....	6½ pt.
Tincture of cantharides.....	½ pt.
Oil of lavender.....	½ oz.
Oil of rosemary.....	½ oz.
Oil of cloves.....	1 oz.
Oil of bergamot.....	2 oz.
Powdered alkanet root.....	1 oz.

Mix the oils in a gallon bottle, full measure; put the alkanet root on a filter (or pack in a funnel) and pour on the alcohol until the color has all been discharged, then add alcohol to complete the quantity directed.

#### PETROLEUM HAIR TONIC.

Pure winter bleached paraffin oil, free from acid.....	1 gal.
Chloroform.....	½ oz.
Oil of bergamot.....	3 dr.
Oil of lavender.....	3 dr.
Oil of cloves.....	3 dr.
Oil of neroli.....	1 dr.

Cocoonut oil has long been a favorite with many people because of its imagined specific influence as a promoter of the growth of the hair. Inasmuch as pure castor oil, olive oil or benne oil has been proved equally if not more beneficial, cocoonut oil is dropping out of use, certainly in the more elegant preparations for the hair, and rightly so, because of its tendency to rancidity.

#### HAIR OILS.

These are innumerable, their name is legion, but castor oil, olive oil or benne oil is the base, and the various essential oils in various proportions according to fancy are the sources of the odors. They are easily made and colored also, if desired.

#### BANDOLINE.

The old quince seed mucilage has been replaced by an article less liable to decompose, and more easily made.

Gum tragacanth.....	8 oz.
Rose water.....	6 pt.
Orange flower water.....	2 pt.
Salicylic acid.....	16 gr.
Alcohol.....	2 dr.
Oil of neroli.....	20 drops.
Extract of jasmine.....	2 oz.



Let the tragacanth stand one day (twenty-four hours) in the water, and strain through muslin; add the salicylic acid dissolved in the alcohol, and the remaining perfumes with thorough admixture.

## ROSE BANDOLINE.

Proceed as above, but substitute for the oil of neroli and extract of jasmine 1 dram of oil of rose, 5 drops of extract of musk and 5 drops of oil of wintergreen, and shade a delicate pink with carmine solution.

## HAIR RESTORATIVES.

These have been so thoroughly and exhaustively presented from time to time in the trade, scientific and popular journals that passing reference is about all they require. The base of nearly all of them that have proved popular is acetate of lead and sulphur in varying proportions. Their continued use, even if not unsafe, is indiscreet, since their employment deceives no one and advertises the fact that the user is trying to force nature into playing hocus pocus with every observant people.

## INTERESTING QUESTIONS AND ANSWERS.

From *Popular Science News*.

How is bituminous coal reduced to coke, and what are the lead-colored metallic-looking crystals which are found on the pieces composed of?

*Answer.*—Coke is formed by submitting bituminous coal to a red heat in iron or clay retorts, as in the process of gas-making. What is known as "destructive distillation" occurs; a large number of hydrocarbon compounds are driven off, and a more or less pure carbon remains behind in the form of coke. The metallic-looking crystals are what is known as "gas carbon," an allotropic form of the element resembling graphite. This substance is extensively used in electric arc lights and other apparatus.

Why are the numbers 32 and 212 used to express the freezing and boiling point of water upon thermometer scales?

*Answer.*—The scale in general use is known as the Fahrenheit scale, from the name of its inventor, and is based upon his incorrect views of the laws of the expansion of mercury. He took for his zero point the greatest natural cold ever observed at Amsterdam. The Centigrade thermometer scale, which is used in most European countries, and in all scientific work, is divided into one hundred degrees, the freezing point of water being 0° and the boiling point 100°. As these temperatures are invariably under the same conditions, the Centigrade scale is a much more rational one.

Why does the image on an exposed photographic plate require "developing" to render it visible?

*Answer.*—The exact effect of light upon the sensitive molecules of bromide of silver is not fully understood, but in some way it renders them capable of being decomposed and reduced to metallic silver by the action of certain reducing agents called developers. When an exposed plate is placed in a developing solution, those parts on which no light has fallen remain unaffected, while the bromide of silver which has been acted upon by the light is reduced to metallic silver, thus forming the image. The unreduced bromide of silver is afterwards reduced by dissolving in hyposulphite of soda. The action of the light on the molecules of bromide of silver can be compared to the undermining of a brick building,

which leaves it in such a condition that a slight force will overthrow it and tear apart the separate bricks of which it is composed.

The sparks which in cold weather fly from the fingers when a metallic object is touched are due to the electricity produced by the friction between the soles of the shoes and the carpet. The electricity is not formed in the body at all and has nothing to do with the vital processes.

F. I. C.—What proportion of the moon's surface is visible from the earth?

*Answer.*—The moon revolves on its axis in exactly the same time that it completes a revolution round the earth, and therefore only one side is ever visible; but owing to certain apparent irregularities in its motion, known as *librations*, sometimes a little more of each side is turned towards us. The largest area of surface that has ever been seen is about fifty-nine hundredths of the whole.

W. C. R.—What is the cause of the peculiar irritating odor from a smoky kerosene flame?

*Answer.*—It is principally due to the presence of a gaseous hydrocarbon, known as *acetylene* ( $C_2H_2$ ). This gas is produced by the incomplete combustion of organic substances rich in carbon. It is particularly noticeable in the gases formed by a Bunsen gas burner, when the flame descends and below "burns." It has the peculiar property of combining directly with copper to form an explosive compound, cuprous acetylide ( $C_2Cu_2H_2O$ ). It forms similar compounds with silver and some other metals.

## A HEART-BROKEN DOG.

"Well, may be not—may be not," I heard a man say the other day. "It may be that the lower animals are incapable of feeling grief to any great extent, but let me tell you of a dog my father once had, and I think you will agree with me that there are exceptions to the rule.

"The dog's name was Duke. One of the earliest recollections I have is that of my father riding into the yard one day with the little plump pup in his arms.

"Duke grew up with us children as though he were one of the family, sure enough. He would play and eat with us, and all but sleep with us. There was but one person in the world he preferred to us, and that was my father.

"The attachment of Duke to my father was the wonder of the neighborhood. It was very seldom they were separated for any length of time during the day, and in such a case they were equally disconsolate.

"Duke was almost ten years old when my father died. At such a time, of course, no one could be expected to give much heed to a dog. I doubt if any one ever thought of noticing what effect my father's death had upon Duke until we moved across the river into town and rented the old country seat to a tenant.

"Then we couldn't help see it.

"Every night that dog would steal from the house and swim the river to the old home.

"Every morning, in compliance with our request, the tenant would drive him back. It was no use, however, for Duke would always come back, and in a heartless, dejected way, go over to the old familiar haunts where he had always before found his master.

"In some vague way he seemed to realize that the cemetery held all that was left of his friend and would spend hours at a time beside the grave,

but always with an uncertain air, as if he were not quite sure.

"The change in Duke was a matter of concern to us all. From the romping, bounding, lively fellow of a few weeks before he had become a quiet, dull-eyed chap, full of midnight whinings and mysterious disappearances.

"We knew it was grief that was killing him.

"One morning, after a longer search than usual, we found him lying dead in the cemetery beside his master's grave."

## DOING ALL SHE COULD.

"If," he murmured, as he gazed into her eyes (they were sitting on the front steps)—"If I had only a little more money to count on"—Then he stopped.

"What would you do?" she asked. Deem her not bold, gentle reader. The summer, she felt, was over; soon the cold winds would put a stop to these front-step sentimentals. No fellow ever would propose in the winter time with pa and ma in the sitting room, listening to everything, and she felt she must jog him a little.

He turned a little pale and asked if her pa was dealing at the same grocery as last year.

"Yes, he is. What would you do?"

"I—I would have a home of my own. I would, there!" This seemed like business.

"How much have you got?" said she, and her voice sounded firm.

"Fifteen dollars a week." He hung his head.

"How much do you give a week now for your room?"

"Five dollars."

"Stuff! We can get a room plenty good enough for both of us, and a pantry to cook in, for that. How much do your meals cost?"

"Five dollars a week."

"Pooh! We can both live for that, cooking at home. What do you do with the other \$5?"

"Well I—I smoke, you know."

"Well you can quit that right off; anyhow, you don't spend \$5 a week on smoking."

"No; oh no. Of course there are expenses; other fellows and such"—

"Well, you can stop those, too. What else?"

"I try to save a little."

"That is talking. How much have you saved?"

"Eleven dollars and a half."

"That's plenty for the minister and moving, and something to spare for a necktie or something for you to stand up in. Well?"

"Well, Mary?"

"Go ahead; I can't do everything, you know. You've got to ask me."

"Do you believe in the transmigration of souls?"

"Not I. And you?"

"I am convinced of it."

"Indeed! Then what were you once upon a time?"

"An ass."

"When?"

"When I lent you that sovereign!"

The manager of a traveling opera company boasts that it takes 157 chests to hold the dresses of his troupe. It is to be hoped that some of the chests have voices in them.

Aunt Jane—Is the water where you live now soft or hard?

Wee Niece—I guess it's pretty hard. The girl spattered some on the lamp chimney the other night an' it broke all to pieces.



## BOOK REVIEWS.

## LOGARITHMIC TABLES.

The fourth edition of this work has just been issued by the author, Prof. George William Jones of Cornell University, 17 Stewart avenue, Ithaca, N. Y. The pages are large and open, the type clear so that every figure stands out by itself, and the paper and printing are good. These tables have been frequently compared with all the standard works and every known test has been applied to secure their accuracy.

WORTHINGTON COMPANY, Joseph J. Little, Receiver, 747 Broadway, New York, announce for immediate publication as No. 21 in their Rose Library: *THE RAG-PICKER OF PARIS*. By Felix Pyat. Translated by Benjamin R. Tucker.

This novel, made out of the successful (1,000 nights) drama of the same name, contrasts the lives of the rich and poor in Paris. It also shows, in vivid colors, the influence of the priests, the injustice of civil functionaries, the abuse of the power of the press; in fact, the struggle for existence everywhere. The poor rag-picker, who saved a rich man from suicide, learned a lesson he never forgot of the duty of every created being to do his best just where he has been placed. It is a most fascinating book, even though the author speaks with French freedom of many things generally left unmentioned in English literature. The translation is very faithfully done by Mr. Tucker. One vol., 12mo., cloth, \$1.00; paper, 50 cents.

They also announce for immediate publication *ANTOINETTE*; or, the Marl-Pit Mystery. By George Ohnet, author of the "The Ironmaster."

This admirably-written story, which will be found to add greatly to the already high fame of Ohnet, portrays a wonderful picture of filial love. The inventor's daughter, a charming creation of the author's mind, sacrifices herself, her love, her fortune, everything, to her father's ambitions and unprofitable experiments and inventions. She inspires the reader with such generous and lofty ideas of life and action that this book must be ranked among the most powerful of the day. The plot of the story rests upon a family feud and is excellent. The story is at times deeply mysterious, and gives with a keen incisive touch the characteristics of modern society in France. One vol., 12mo., paper

*ALICE MITCHELL*, a monograph, by Dr. T. Griswold Comstock, St. Louis, reprinted from the N. Y. *Medical Times*. Dr. Comstock treats in a very delicate but scientific manner the medical side of this justly celebrated case in medical jurisprudence. While fully accounting for the crime committed on rational grounds, the bibliography on the subject is also exhaustively given.

## A MEANS OF WARDING OFF CHOLERA.

It is known to all my readers that the digestive tube is the first part of the organism attacked in cholera, whereas the liver and kidneys are only affected later on and apparently without the presence of the pathogenic bacillus. Furthermore, a great many experiments of inoculating this disease to animals show very plainly that the comma bacillus has to pass through the stomach before it begins to act. Now the stomach is an organ which, when in its normal condition, the bacillus has great trouble in passing through, because the gastric juice on account of its acidity is a powerful means of destroying microbes.

Under these circumstances how can we account for the outbreak of the disease in man if we allow that the bacillus can only enter the body through the stomach? We can only explain the fact by admitting that at the moment that the disease is contracted the gastric juice was not in its normal acid condition, whereby the microbe escaped from its fatal action and passed on and developed at its leisure in the intestine, a medium that is eminently favorable to it.

It becomes evident from these facts that by increasing the acidity of the gastric juice we shall place a most powerful obstacle in the way of the invasion of these microbes and shall, so to speak, shut the door in their faces. To attain this purpose we may have recourse to drinks acidified with hydrochloric, tartaric or citric acid.

When this can be as well accomplished by a pleasant beverage tasting like lemonade it would seem to be better to do so. An acid drink made by adding a teaspoonful of Horsford's Acid Phosphate with sufficient sugar to a glass of water will answer every purpose.

Practical Father—I want to buy a watch for my boy's Christmas present—the cheapest you have.

Honest Dealer—I'm afraid I can't warrant the cheap ones to keep very good time.

Practical Father—Oh, that doesn't matter; just fix it so he can open the back case.

If you are very naughty there is no absolute necessity for waiting until New Year's to swear off. Begin now and avoid the rush later on.

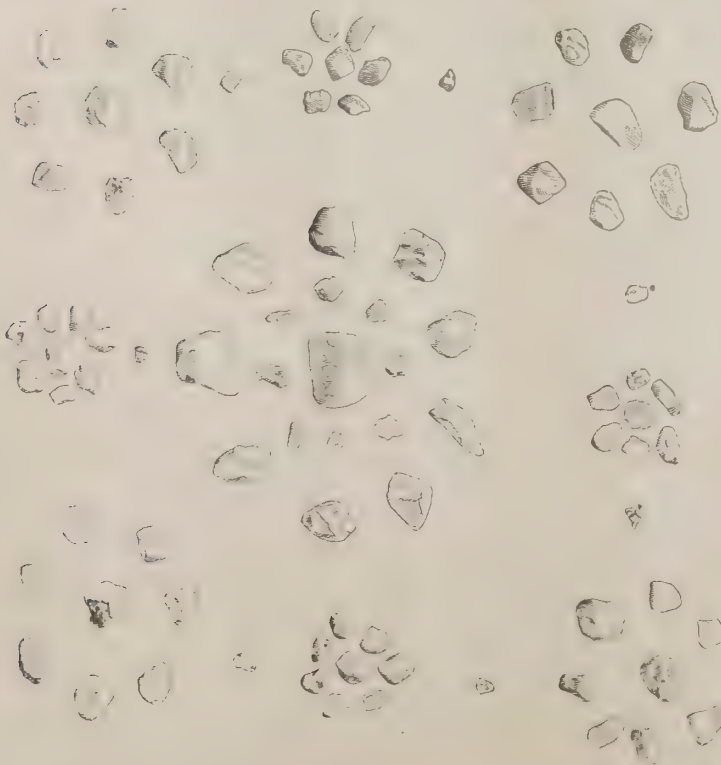
Mistress (angrily)—See, Bridget, I can write my name in the dust.

Servant (admiringly)—Oh, mum, that's more than I can do. There's nothin' like eddication, after all, is there, mum?

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

E. C. LAIRD, Buffalo Lithia Springs, Va.

PETERSBURG, VA., Sept. 5, 1892.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to—

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## OLD TIME WISDOM.

One of the oldest and best health rules is—"Keep the head cool, the feet warm and the bowels open." The man who conforms thereto stands an excellent chance of keeping well until he dies of old age. But unfortunately the first injunction is little regarded; the second, so difficult of observance at this season that if followed at all it is likely to be by means almost as dangerous as going barefoot; and as for the third, very few of us pay the slightest attention to our bowels until they get very seriously "out of kilter" and compel our resort to radical measures to get them right again. Anybody can cultivate baldness and catarrh by wearing hot and ill ventilated coverings for his head; and by par-boiling his feet in india-rubber shoes, or "arctics" can have any one or more of a wide range of maladies, from rheumatic twinges up to pneumonia, as a pretty certain consequence of the inevitable subsequent chill when he takes his unduly sensitized pedals out into the "cold, cold world." But not all the cases of resultant illness from these two causes would be a tithe upon the numbers of those who die from neglect of the bowels. No organs in the entire animal economy are more essential to health than the bowels. When their functions are arrested, the injury to the rest of the system is immediately great and rapidly cumulative. The kidneys, overtaxed to do double excretory duty,

# Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to  
Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For sale by all Druggists.

## 'Twould Cross the Ocean

many, many times, if you could put of Pearline that have been used. millions of packages, to millions of

in a line all the packages Think of it! Hundreds of different women; each one of these women probably just as particular about her washing as you are. They've no fault to find with it, but are using more and more of it every day. Doesn't all this move you to try it for yourself, and as well pleased? Cross-



Send it Back

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearline, be honest—send it back. 379 JAMES PYLE, New York.

are speedily exhausted, poisoned and enfeebled; the assimilative organs are quickly demoralized and carry into the blood instead of a rich supply of pure life-conserving molecules, a mass of impurities of highly deleterious character; and the heart, lungs, liver, kidneys, stomach and brain are all affected gravely by the poison thus introduced into the system. When the mischief has gone thus far, merely purgative medicines will not suffice to restore health. It is a comparatively simple matter, in most cases, to merely remove the mass of semi-digested, fermenting and decomposing material clogging the bowels, but already much of it has gone beyond reach of that cleansing process, and extraordinary measures must be resorted to, to restore the eliminative and excretory organs their wonted vigor. Primarily the liver and kidneys must be stimulated, secondarily they must be toned up so as to continue, without reaction, the discharge of their functions.

No more effective medicine for attainment of these ends is known to curative science, than Ayer's Compound Cathartic Pills. Their efficacy has been sufficiently demonstrated during almost half a century, in all quarters of the habitable globe, to preclude question as to their value, but it is at least worth mention from time to time, if only for the benefit of the rising generation and those who are too busy with other things to recognize that they have bowels until compelled to by disease. Not only are Ayer's Compound Cathartic Pills invaluable for the relief they afford from such extreme conditions as have been described. They are also the most effective preventive of constipation and aid to digestion that is obtainable, affording absolute security against intestinal disorders for all who use them as "after dinner" pills; and will if used according to directions cure the most obstinate cases of chronic constipation. Thorough as they are, they are mild in action and their force may be regulated to a nicety simply by the number taken.

## A. LEOFRED,

(GRADUATE OF LAVAL AND MCGILL)

## MINING ENGINEER,

Branch Office, Montreal.

Head Office, QUEBEC.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Charles Harrold & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

## GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Sève of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.

"Eat BEECHNUT Hams and Bacon"



## BUSINESS NOTES.

### CATARRH CANNOT BE CURED

With LOCAL APPLICATIONS, as they cannot reach the seat of the disease. Catarrh is a blood or constitutional disease, and in order to cure it you must take internal remedies. Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces. Hall's Catarrh Cure is not a quack medicine. It was prescribed by one of the best physicians in this country for years, and is a regular prescription. It is composed of the best tonics known, combined with the best blood purifiers, acting directly on the mucous surfaces. The perfect combination of the two ingredients is what produces such wonderful results in curing Catarrh. Send for testimonials, free.

F. J. CHENEY & CO., Props., Toledo, O.  
Sold by druggists, price 75c.

### FOR MALARIA.

Use Horsford's Acid Phosphate. Dr. E. G. Davies, De Smet, Dak., says: "I have used it in slow convalescence and prevention from malarial diseases, where the drinking water was bad; I believe it to be beneficial in preventing summer complaints; also one of the best agents we have to rectify the bad effects of the drinking water upon the kidneys and bowels."

### YOU LIKE PIE?

Of course you do. Everybody does. If you would know how to make the best pies, and, in addition to this, would learn how to prepare really delicious puddings, with the most appetizing sauces, send a two cent stamp to Dr. J. C. Ayer & Co., Lowell, Mass., and receive in return a copy of Ayer's Book on Pies and Puddings.

### THE UNVARNISHED TRUTH AND NO BOMBAST.

In advocating the claims of a deserving remedy no less than of any other meritorious article, exaggeration is as unwise as it is unnecessary. To avoid anything approaching flamboyancy, to adhere to the rigid limits of truth, is, as we have ever believed, the most politic as well as the most honest course. Scott's Emulsion of Cod Liver Oil with the Hypophosphites of Lime and Soda has been adjudged worthy of unqualified commendation by leading physicians on more than one continent of this and the old hemisphere. Experience has proven its ability to successfully antagonize consumption and lung troubles; a trial convinces any one who uses it that its flavor is unobjectionable and the unsolicited representation of a host of living witnesses show its tonic and flesh-creating properties in wasting disease. No less positive is the evidence that for scrofulous and rheumatic ailments it is a most serviceable medicine. Every one of these statements is authenticated by ample proofs in the hands of the manufacturers.

### KINGSFORD'S STARCH.

The *New Idea* answers a correspondent as follows:

Please furnish me, if convenient, with the formula for Kingford's Silver Gloss Starch. W. J. B.

Kingford's Silver Gloss Starch when examined under the microscope appears to be composed entirely of corn starch. His Culinary Starch and Silver Gloss are, therefore, one and the same thing, sold under their respective titles as indicated.

On which we beg to remark: This answer is evidently not conceived in the most friendly spirit to the manufacturers and yet because of this very fact the clear and sharp endorsement of the purity of these goods is all the more valuable.

We rather think that the editor would find quite a difference between the Culinary and the

Silver Gloss Starch if he were to attempt to use them indiscriminately, but even this mistaken statement shows the purity of the laundry starch, the writer thus saying practically that the laundry starch is good enough to eat. While on this subject let us add that the general reader does not apprehend fully the importance of starch in the economy.

Starch bears so close a relationship to necessities of the laundry, that we overlook its importance in other directions, if indeed, many realize its full usefulness elsewhere. The starch manufacturers do not depend on the washwoman or the steam laundry; among their customers are men of many callings. Some of the uses to which starch is put show how important an article of commerce it has become.

In the manufacture of paper, starch is employed to give firmness and strength to certain grades and gloss to others.

The peculiar glaze which appears upon the surface of cotton batten, is obtained by the use of starch, and the solidity of many cotton and woolen goods when first purchased is due to this article.

Large quantities of starch are consumed in the manufacture of dextrine or British gum, which enters into the mucilage on the back of postage stamps. This gum may be obtained by heating starch in dry ovens to 347 deg. F.

Glucose, which has become a familiar article to everyone, is largely manufactured by the action of dilute mineral acid upon starch for twenty-four to thirty-six hours.

Nearly all fine confections contain starch, and the baker's icing would be incomplete without it, while the artificial cream of his puffs owe their consistency to it.

In the household as a culinary article, starch has secured an important place in cakes, pies and puddings, and as the chief ingredient of the prepared "puddines."

The butcher often finds starch a good friend to aid him in giving consistency to his sausages and at the same time adding weight to them, for starch when boiled, takes up sixteen times its weight of water, and starch and water are both much cheaper than meat, and wonderfully add to the profits.

As an ingredient of paste, starch has a well earned reputation.

Every baking powder in the land is mostly starch, and it can hardly be considered an adulterant of them, for it makes their use more certain, as the chemicals alone would be too strong to be used except in such small quantities as would be inconvenient to measure accurately, so starch is added to increase the bulk.

In pharmacy starch holds an important place under its technical name of "amylum." It directly unites with many drugs, and mixes well with others. It is also used, boiled with water, as a vehicle for the administration of certain classes of medicines.

In surgery it is often employed, and the starch bandage has in many instances, been found an efficient friend in emergencies.

As a toilet article, it is well known as serviceable upon chafed surfaces, and the "starch bag," especially in the country, is almost an indispensable companion for the ladies in warm weather, when perspiration of the face becomes annoying.

### A STATEN ISLAND IDYL.

Probably no train in the world has had so much said and written about it as the New York Central's great flyer the "Empire State Express." The English papers have illustrated it time and again;

in darkest Africa its merits are discussed around the camp fires of Emin Pasha; in farther India the British army officers wonder if it is possible that old England has been again out-done by Yankee genius; from China and Japan come admiring letters of commendation for this latest achievement of Western enterprise; at the recent graduating exercises of an Eastern seminary, the prize essay was by a young lady from New England on "Speed as an Incentive to Travel" (a ride on the Empire State Express having suggested this theme). The newest endorsement of this wonderful train is from a youthful Staten Island poet; the following letter and poem, received a short time ago by General Passenger Agent Daniels, explain themselves, and clearly prove that the children of the present generation are in full accord with the spirit of improvement and enterprise which marks the closing decade of the nineteenth century:

STAPLETON, STATEN ISLAND, }  
October 3, 1892. }

Dear Sir—Inclosed, please find a poem about your great train, the "Empire State Express." I am a boy about twelve years old and wrote this without any help whatever. I send it, hoping it may be of use to you as an advertisement, and remain,

Yours respectfully,  
B. S. JACOBS.

"To you who like to travel fast  
Just this on your mind impress,  
That the fastest train in the wide, wide world,  
Is the 'Empire State Express.'

"Tis our 'greatest railroad's' greatest train,  
And it's never a moment late  
As it speeds on its way from end to end  
Of this grand old Empire State."

WALTER BAKER & CO., AT THE  
WORLD'S FAIR.

We are informed that Miss Juliet Corson who is to have charge of the cooking school at the World's Fair in Chicago has decided to use Walter Baker & Co.'s cocoa and chocolate preparations exclusively in the demonstrations during the fair.

Paul must have felt at home when he stood on Ma's hill.

★ THE GREAT MEDICINAL FOOD ★  
**IMPERIAL  
GRANUM**



**PURE, DELICIOUS,  
NOURISHING**

**FOOD**

FOR NURSING MOTHERS, INFANTS AND

**CHILDREN**

FOR INVALIDS AND

**CONVALESCENTS,**

FOR DYSPEPTIC, DELICATE, INFIRM AND

**AGED PERSONS**

AN UNRIVALLED FOOD IN THE

**SICK-ROOM**

SOLD BY DRUGGISTS. \* SHIPPING DEPOT — JOHN CARLE & SONS, NEW YORK



# KINGSFORD'S OSWEGO STARCH

The Standard of Excellence.

"PURE" AND SILVER GLOSS

For the Laundry.

CORN STARCH

For the Table.

ABSOLUTELY PURE IN QUALITY.

## TABASCO PEPPER SAUCE

OR LIQUID PEPPER.

IS SIMPLY THE PULP OF THE RIPE PEPPER EXTRACTED BY PRESSURE.

The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced by connoisseurs to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

MANUFACTURED BY

**E. McILHENNY'S SON,**  
NEW IBERIA, LA.

FOR SALE BY ALL WHOLESALE GROCERS.

ESTABLISHED 1823.

**ALEX. YOUNG CO., LIMITED,**

DISTILLERS OF

## Y.P.M. WHISKIES

DISTILLERY, - Nos. 408, 410, 412 and 414 South St.  
MALT HOUSE, Nos. 416, 418, 420, 422 and 424 South St.  
STORE, - - - - - No. 700 Passyunk Ave.

**PHILADELPHIA, PA.**

New York Office, - - - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT and PARK & TILFORD.

## THINK!

We all think sometimes, but few can think of the right thing at the right time. At this very moment thousands are trying to think of something to offer a sick mother, brother, sister or friend. Did you ever think of using Burnham's Clam Bouillon in cases of weak stomach, indigestion, dyspepsia, nervousness, and for all forms of gastric troubles? Try it. The results will convince you that it will do what no other food or medicine can.

25c., 50c. and \$1.00 bottles.  
Druggists and grocers.

E. S. BURNHAM COMPANY,  
120 Gansevoort St., New York City.

## SWIFT'S

CHOICE

## CHICAGO DRESSED BEEF

AND

## MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

## RHEUMATISM AND NEURALGIA

are being constantly cured by Robinson's "Sura Cura," a positive antidote for all impure states of the blood. Price \$1, sent by mail. Send for circular.

R. W. ROBINSON & SON,

184 Greenwich St., N. Y.

## PATENTS

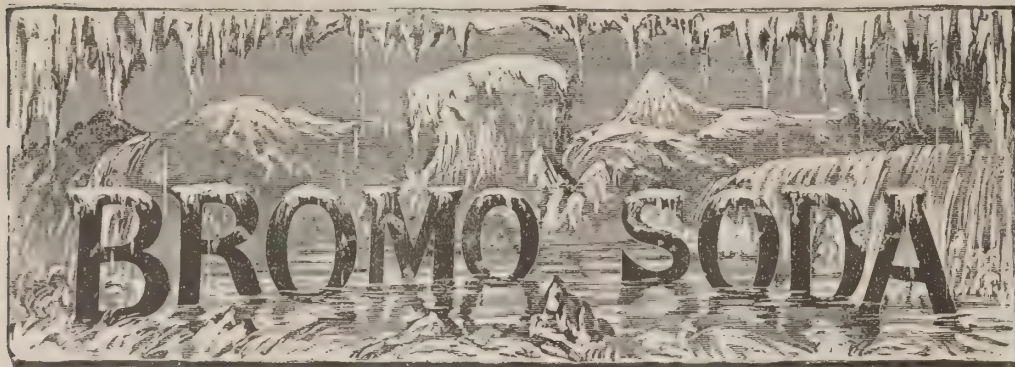
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Washington, D. C. 20  
years' experience.  
Write for information.



FOR THE SPEEDY RELIEF OF

## NERVOUS HEADACHE AND BRAIN FATIGUE

WARNER &amp; CO.'S EFFERVESCING



Useful in Nervous Headache, Sleeplessness, Excessive Study, Over Brainwork, Nervous Debility, Mania, etc.

DOSE.—A heaping teaspoonful in half a glass of water, to be repeated once after an interval of thirty minutes, if necessary. Each teaspoonful contains 30 grs. Bromide Sodium and 1 gr. Caffein.

It is claimed by some prominent specialists in nervous diseases that the Sodium Salt is more acceptable to the stomach than the Bromide Potassium. An almost certain relief is given by the administration of this Effervescing Salt. It is also used with advantage in INDIGESTION, DEPRESSION following alcoholic and other excesses, as well as NERVOUS HEADACHE. It affords speedy relief for MENTAL and PHYSICAL EXHAUSTION.

PREPARED ONLY BY

WM. R. WARNER &amp; CO.,

MANUFACTURERS OF SOLUBLE COATED PILLS,  
PHILADELPHIA and NEW YORK.

Registered July 20, 1886.

How many persons know that Ripans Tabules, now so largely advertised and used, are simply the favorite prescription of their family doctor prepared in a scientific manner and a form convenient for handling, conveyance, preservation and use? In the great hospitals of the metropolitan cities, where the wealthy find better care than in their own luxurious homes, the ingredients of Ripans Tabules are administered to thousands of rich and poor alike with beneficial effect. They are the main dependence of the most eminent physicians in cases of derangement of the digestive organs, such as dyspepsia, constipation, biliousness and other ills connected with the stomach, liver and bowels. For some years one of the principal hospitals in New York city has used a formula, differing slightly from the common one, that has been found of unusual efficacy. Through the commendations of physicians its mission of healing has been so widely and rapidly extending that it finally seemed desirable to prepare the prescription in a convenient form, so as to make it available to the whole public at a moderate price, and to announce the fact through the recognised medium for securing publicity—advertisements in the columns of the newspapers of the land. This has been done, and now the time is not far distant when every family of intelligence will be as certain to possess a supply of Ripans Tabules as a clock or a cooking stove. They are already to be found on sale almost everywhere, and any druggist or dealer will supply them. A box, containing six vials, is sold for 75 cents, and a gross package, containing four boxes, for \$2. They will be sent by mail, post paid, to any address, on receipt of price, by the Ripans Chemical Company, No. 10 Spruce Street, New York.

FREE

Trial. Why suffer from the bad effects of the La Grippe, Lame Back, Kidney and Liver disease, Rheumatism, Indigestion, Dyspepsia, any kind of weakness, or other diseases, when Electricity will cure you and keep you in health. (Headache relieved in one minute.) To prove this, I will send to any one on trial, free, **DR. JUDD'S ELECTRIC BELT**. Prices, \$3, \$6, \$10, and \$15, if satisfied. Also, Electric Trusses and Box Batteries. Costs nothing to try them. Can be regulated to suit, and guaranteed to last for years. A Belt and Battery combined, and produces sufficient Electricity to shock. Free Medical advice. Write to-day. Give waist measure, price and full particulars.

Agents Wanted. Address **DR. JUDD, Detroit, Mich.**

## Where Do You Advertise?

"Doubtful goods are never advertised in reputable trade papers. Paste this in your hat."

"It's the character of the customers, not their number, that counts. Some eighty-acre farms produce more than an entire section of land."

## RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, **without the knife or risk.** Diseased eyes or lids can be cured by our home treatment. "We prove it." **Hundreds convinced.** Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.

## PATENTS

GEORGE E. LEMON,

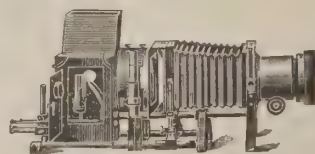
Lemon Building, Washington, D. C.,

Counsellor at Law, Solicitor of American and Foreign Patents.

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For Pleasure



or Profit.

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and Stereopticons, OIL, LIME, OR ELECTRIC LIGHT, made by us, are simply perfect for PUBLIC or PRIVATE use. So are our Slides. We can fill the bill from A to Z in apparatus, Views and Accessories. Catalogues FREE. Mention this publication.

J. B. Colt & Co. 16 Beekman St. 139 La Salle St.  
NEW YORK. CHICAGO, ILL.

## THE LABORATORY.

To Inventors, Manufacturers and Applicants for Patents:

THE AMERICAN ANALYST may be consulted upon all matters involving theoretical or applied chemistry. Advice and opinions given. Analyses and assays made. Patents perfected and secured. Terms reasonable. Address

AMERICAN ANALYST,

19 Park Place, New York.



# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

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Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

APRIL 1, 1893.

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### OLEOMARGARINE.

Two hundred and fifty-two oleomargarine dealers were each sentenced in the Pittsburgh Criminal Court to pay one hundred dollars fine and costs. The judge, in passing sentence, took occasion to say: "This law has been in force eight years, and only three years ago the United States Supreme Court affirmed its constitutionality. Since it is on our statute book, it must be lived up to, but I will say that I think it an outrageous law, and it should never have been passed. It should not be permitted longer to disgrace the State, and the people should see that it is annulled." A contemporary remarks: "It is unusual, and we think improper, for a judge thus to denounce the law from the bench; but there can be no question as to the soundness of the judge's view of the piece of legislation in question. There are many other laws on the statute-books of the several States equally absurd and iniquitous,

which judges are bound to execute; but it is no part of their duty to proclaim their private opinions with regard to them in an official way."

All we have to say is that when a demagogical legislature passes such bills, simply to curry favor with a class, an upright fair judge should not be blamed for frankly expressing his honest opinion of such laws.

### THIRD ANNUAL FOOD SHOW.

The third annual food and health exposition, under the auspices of the Retail Grocers' Union of New York City was held at the Lenox Lyceum. These expositions are always well attended, and are therefore a source of profit and support to the Grocers' Union. Exhibitors find them capital mediums for advertising, and are therefore pleased to make attractive displays. Much that has heretofore given just cause for complaint has been remedied this year. If there could be devised some means of preventing the shameless display of the genus Hog among the visitors, who load themselves down inside as well as outside with samples, and in their selfish eagerness for a free feed almost run over the more decent part of the audience, one could attend this exhibition with more comfort and less nausea. It seems to us that if the exhibitors would try it for one year, not to distribute any samples to be carried away, it would be a great improvement.

### OUR WHISKEY.

Witnesses before the Whiskey Trust Investigating Committee testified to the fact stated many months ago by the AMERICAN ANALYST that pure spirituous liquors have long been very scarce in the retail trade. Before the same committee, a New York chemist testified that he had examined some of the essences and essential oils used in compounding spirits. Some of them were poisonous and would cause death if taken in sufficient quantity.

Says the London *Lancet*: "We are constantly hearing from France that brandy is enormously adulterated; it has even been said to be doubtful whether real genuine cognac, except at fabulous prices, is obtainable." In fact it is stated that nine-tenths of the ordinary brandy sold as such in France by the retailers is greatly adulterated. It is proposed that the State should take over the monopoly of spirits. By so doing it is pointed out that the revenue would be benefited to the extent of \$200,000,000, while the public health would no longer be endangered by the effects of spirits deplorably sophisticated. India has discovered that she is importing "Scotch whiskey" made in Germany and laid down, cost, freight and insurance, at 12 cents per quart bottle.

In the British House of Lords a bishop gave notice of a bill empowering county councils to take over the liquor traffic, under compensation to the displaced publicans—the Gothenburg plan. The Bishop of Albany proposes doing away with licenses, with accountability by the seller of liquor to a drunken man. His aim is to take the

saloon out of politics. Referring to Britain's annual drink bill of \$700,000,000, an eminent medical authority pronounces it out of all proportion to what can be consumed "without causing much disease and premature death." An economist, meantime, points out that the sum exceeds by \$225,000,000 the joint value of the country's coal and metal output.

A colonial American statesman relates that an Indian sachem once said to him, "The Good Spirit made everything for some use. The use of fire water is to make Injun drunk." It is profoundly instructive to find Hawthorne jotting down the reflection, that rum was no doubt the "appointed means" for removing those aborigines. Here is palpably the key to that tranquil conscience with which his fellow citizens exported their joint ventures of rum and missionary; they persuaded themselves that they were dealing in appointed means, and might as well do so as leave to another a traffic made thus inevitable by "appointment."

A strict parity of feeling, if not of explicit reasoning, no doubt reconciles the British Phillistine to the national drink bill as an appointed means for checking redundancy and congestion of population. Meantime ministers of state do not scruple to allege as ground of objection to the English bishop's plan that the Treasury cannot afford to dispense with the methods now existing to facilitate drinking.

There is no doubt that some pure liquor is made and sold in retail stores, but the fact cannot be gainsayed that very little of it reaches the average consumer. This is due not so much to the avarice of the retailer as to the demand of the depraved taste of the average drinker. Given a strictly pure, properly aged whiskey, and the chances are ten to one that the customer will object to it because it does not come up to his ideal of taste. There is no single article of commerce about which the general public know so little as about liquor. It is principally sold on the strength of the reputation of the firm who makes it, and this very fact opens a wide door for fraud. To illustrate this, a firm in Kentucky have succeeded, by spending large amounts of money and selling really pure goods, in putting their brand of whiskey in this market. It is sold in bottles, and under their label in nearly every barroom in New York. A good judge of whiskey who is not in any way interested in the sale of any whiskey informs us that he has only been able to find that particular brand of whiskey genuine when the retailer had the original bottle corked and capped by the manufacturer, otherwise he generally found the bottles bearing the genuine labels but containing different whiskey. The explanation of this is that the dealer bought a case or two of the genuine goods, and after selling the contents of the original bottles refilled them with any whiskey he happened to have on hand. On the other hand, there is another whiskey made in Philadelphia which is sold in bulk by two of the largest and most reputable New York grocery houses. This has been introduced upon its merits with very little advertising and has steadily grown in



public favor. It is a pure whiskey, aged as it should be, and sold at a fair price, and thereby has removed the temptation to sophistication; the public has been gradually educated to its taste and the brand has become a staple article, having a steady and growing demand for it. It can easily be seen which of these brands will hold the market, and teaches another lesson that character and reputation for sustained quality of goods will gain the day in the long run.

## MEDICAL.

### HOW CONTAGION IS TRANSMITTED,

AND THE AGENCY OF BAD PLUMBING AND BADLY-BUILT SEWERS.

In the last number of the "Bulletin" it was stated that "All scientists now agree that every new case of scarlet fever or diphtheria results from the contagion of a previous case." From communications since received it is quite evident that a different interpretation than that intended has been put upon that assertion. The editor therefore takes this opportunity to make himself better understood on this very important topic.

When a person receives the contagion of any disease, from another sick with it, it is not always necessary that the recipient should have touched the sick person. Scarlet fever and diphtheria are often communicated to others who do not approach the sick, but are only in the same room. In such cases, the medium of communication is the atmosphere about the patient which is charged with the contagion. In this way the visiting party gets the disease from "a previous case."

But that is not the only way in which it can be given. The "previous case" may be a fatal one, may die and be buried. Now, if the clothing of that patient be packed in a trunk and shut up from light and air, and if it be subsequently opened, weeks, months, or even years afterwards, and if the clothing be taken out of the trunk and shaken in the presence of a susceptible person, he will take the disease, although the "previous case" may have been dead and buried before the one who gets the contagion from his clothing was born. Here the medium of contagion between the "previous case" and the present one was the infected clothing. It illustrates the prime importance of complete disinfection of everything which may have been infected by such patients. It illustrates also the remarkable vitality of these disease germs.

Under favorable conditions disease-producing germs can be cultivated. So it is believed that the germs thrown off from the bodies of diphtheria and scarlet-fever patients may find favorable conditions for their reproduction, may find a soil adapted to their perpetuation. There is no end of proof that there are many things besides the clothing worn by such patients which are capable of holding the infection in an active state for a long period. The many instances in which diphtheria is associated with filthy surroundings, with imperfect plumbing of houses, and the numerous outbreaks of diphtheria promptly after the opening and removal of the contents of cesspools, give strength to the belief that sewage may be a good culture medium for the perpetuation of the germs if at any time the infection from a "previous case" may have been implanted in it.

There is another way in which bad plumbing and badly-built sewers may contribute to the spread of these and other infections. Leaky sewers contaminate the soil, and bad plumbing admits sewer gases into the houses, which may carry with them micro-organisms. Persons ex-

posed to these conditions are known to be far more susceptible to disease—that is, more liable to take contagious diseases and less able to survive them, than others. Hence, when infectious diseases prevail they find many more victims and a larger proportion of fatal cases in such circumstances than where the air is pure and the ground is clean. In short, the "previous case" can be the source of the disease for a long time, and in many different ways, unless disinfection has been complete.—*Bulletin Conn. Board of Health.*

## OBESITY.

### A NEW METHOD OF TREATMENT.

W. Mendelson, M.D., read a paper before the section on the theory and practice of medicine of the New York Academy of Medicine on the hygienic treatment of obesity of which the following is an epitome.

He says, that we must suitably regulate the diet and exercise, bearing in mind that the change we wish to bring about must be gradual to be efficient, and with regard to diet, give albumen and relatively little non-nitrogenous food.

He condemns the "Banting System" for the reason that a specified course long continued without any variations invariably results in lassitude and weakness.

There are three sources from which fat may be derived for the body: First, from the splitting up of the albumen of the food; second, from the transfer of that fat ingested as food; and third, probably from fat formed from starches and sugars when these are taken in large quantities.

He also gives the following diet list for producing fat:

Breakfast: 1 cup (6 ounces) tea or coffee, with milk and sugar, bread  $2\frac{1}{2}$  ounces (two or three slices), butter  $\frac{1}{2}$  ounce, 1 egg or  $1\frac{1}{2}$  ounces of meat.

Dinner: Meat or fish 7 ounces, green vegetables 2 ounces; spinach, cabbage, string beans, asparagus, tomatoes, beet tops, etc. Farinaceous dishes  $3\frac{1}{2}$  ounces (potatoes, rice, herring, macaroni, etc.) or these may be omitted and a corresponding amount of green vegetables substituted. Salad with plain dressing 1 ounce, fruit  $3\frac{1}{2}$  ounces; water sparingly.

Supper or Lunch: 2 eggs or lean meat 5 ounces; salad (radishes, pickles, etc.)  $\frac{1}{2}$  ounce, bread  $\frac{1}{2}$  ounce (1 slice), fruit  $3\frac{1}{2}$  ounces; or fruit may be omitted and bread 2 ounces substituted; fluids (tea, coffee, etc.) 8 ounces. No beer or cider, champagne, sweet wines or spirits. Eat no rich gravies and nothing fried. The patient should not be allowed to experience weakness and lassitude.

"Banting's System" above referred to, consists of living on meat and green vegetables and avoiding starch, sugars and fats, salines, sodium chloride sulphurous waters, vegetable acids and vinegar, the latter is said to be very injurious.

M. Albert Robin, in the Bull. Gen. de Therap. lays down the following indications for a liquid or dry diet in the treatment of obesity.

In the case of fat persons who secrete an abnormally large amount of urea, a dry diet should be enjoined.

On the other hand, in the case of those whose secretion of urea is below the normal, abundance of water and other liquids should be prescribed. Finally when the secretion of uræa is neither increased nor diminished one must look for the co-efficient of "oxidation," that is, the relation existing between urea and the solid matters of the urine, for a guide; when the co-efficient of the oxidation is high, a dry diet is indicated; but when it is low, fluids should be taken in large quantities.

In addition to these valuable suggestions the

following formulas have been variously suggested for the treatment of obesity:

Potassium Permanganate. .grs. vi to xxiv.

Aqua Destillatae. . . . .oz. ij.

Mix—Sig: A teaspoonful three times a day.

Or—Liquor Potassae . . . . .oz. ij

Sig: A half teaspoonful thrice daily in milk.

Or Fowler's Solution in 5 drop doses, three times daily.

## HEITZMANN'S OINTMENT FOR BOILS.

- (1) Salicylic acid. . . . .2 drachms  
Soap plaster. . . . .2 ounces  
Lead plaster. . . . .1 ounce
- (2) Ichthyol. . . . .1 drachm  
Lead plaster. . . . .2 drachms  
Resin plaster. . . . .1 drachm

The following is a formula for a "stick" salve, which can be used for the same purpose:

- (3) Rosin. . . . .1 pound  
Mutton tallow. . . . .1 ounce  
Beeswax. . . . . $\frac{1}{2}$  "  
Burgundy pitch. . . . . $\frac{1}{2}$  "  
Balsam fir. . . . . $\frac{1}{4}$  "  
Venice turpentine. . . . . $\frac{1}{4}$  "  
Oil spike. . . . .1 drachm  
Oil hemlock. . . . .1 "  
Oil cedar. . . . .1 "  
Oil origanum. . . . .1 "  
Oil wormwood. . . . .1 "  
Laudanum. . . . .1 "  
Pulverized camphor gum. . . 1 "

Melt the rosin, tallow, beeswax and pitch together. When a little cool, add the oils, laudanum, etc.; stir in the pulverized camphor, and pour into cold water, then, by greasing the hands it can be pulled and worked until it becomes intimately mixed, when it can be rolled into suitable sized sticks.—*Phar. Era.*

## DIET IN CONSTIPATION.

ALLOWED—Stewed prunes, stewed figs, baked sour apples, apples, peaches, pears, cherries, currants, melons, grapes, strawberries, oranges before breakfast, water on rising, hot water an hour before eating, boiled spinach, boiled lettuce and dandelion, water, plentifully; fat bacon, salad oil, raw eggs in cider, salad oil at bed time, cocoa, soda, buttermilk, cider, coffee if half milk, lemonade, tamarinds, manna, figs, raisins, mush, hominy, oatmeal, brown bread, meats, fresh only; fish, fresh only; meat broths and infusions, all vegetables, if fresh or watery.

AVOID.—Tea, gin, beer, cheese, milk, all salt or smoked meats, pickles, pastry, fresh bread, rolls, waffles, etc., beans, peas, nuts, and all milk compounds with farines.—*Leonard's Ill. Med. Jour.*

## A CHANCE FOR TOPERS.

### CHOLERA BACILLI AND LIQUOR.

Recent experiments, according to the *Pharmaceutische Zeitung*, have demonstrated that the cholera bacillus does not live beyond three hours in Pilsener, Patzenhofer, or Munich beer, two hours in Berlin white beer, five minutes in white wine, fifteen minutes in red wine, and twenty minutes in cider. In boiled milk it succumbed on the tenth day. Coffee and tea infusions proved fatal in from two to four hours. The bacillus flourished in chocolate.

If there was ever anything appropriate in an accident it was when the Schiedam's shaft snapped.



## THE PAN-AMERICAN MEDICAL CONGRESS.

## SECTION OF GENERAL MEDICINE.

This unique assemblage to be held in Washington September 5 to 8, 1893, promises to be one of the most important events that has occurred in the history of medicine in America. Its success is assured by the large number of valuable papers already promised. The Section on General Medicine, which is one of the most important that has been created, bids fair to be one of the most successful in the entire Congress; and already many valuable contributions are in process of preparation, and will be read at the meeting. It is hoped, with the hearty co-operation of all physicians living not only in North but also in South and Central America, that the work in this section will be memorable; and each physician living on this continent is requested to join this most important section, and to prepare a contribution to be read before that body. It is especially requested that those intending to join this section or to read papers shall at once send their names, with titles of papers, to the secretary, Dr. Judson Daland, No. 319 South Eighteenth street, Philadelphia, Pa., so that they may be noted on the calendar and given their appropriate places.

## HYGIENIC.

## THE INFLUENCE OF BODILY EXERTION ON THE ASSIMILATION OF FOOD.

Such investigations as have hitherto been made concerning the influence of exercise on the assimilation of food have been confined mainly to observations on the effect of bodily exertion on stomach digestion. From the results thus obtained, however, certain broad deductions, hardly warranted by the facts, have been generally drawn regarding the evil effects of both physical and mental exercise on the assimilation of food.

As regards gastric digestion, there is no question that vigorous bodily exertion directly after eating retards the digestive process. As is well known, the influx of food into the stomach is followed by the secretion of gastric juice which, like all secretory processes, is accompanied by and is partly dependent upon, a rush of blood to the secreting glands, thus drawing a corresponding amount of the vital fluid from other parts of the body, notably the brain, and consequently leading to a partial anæmic condition of the latter organ, resulting in the tendency towards stupor and sleep so plainly felt after eating a heavy meal. At such a time, vigorous mental exercise must necessarily occasion a partial withdrawal of blood from the alimentary tract to the brain, thus leading to a diminished secretion of gastric juice, and to a consequent inhibition of stomach digestion. In a similar manner, vigorous bodily exercise must lead to a corresponding withdrawal of blood from the digestive organs towards the extremities, in order to furnish the amount necessary for the consequent activity of the locomotor muscles, thus indirectly inhibiting gastric digestion. Cohn's well-known experiments on dogs attest the correctness of the latter statement. Thus, in one row of experiments, the animals (three dogs) were compelled to remain quiet for two hours after eating, while in a second series they were kept in continual motion (walking) for the same period of time. Withdrawal and examination of the stomach contents at the end of the two hours, in both series of experiments, showed plainly the effect of exercise in inhibiting gastric digestion. Further, Salvioli's experiment on a dog with gastric fistula led to

like results, so that it may be accepted as a well established fact that bodily exertion directly after eating tends to retard, to a greater or less extent, gastric digestion. But this is all the above facts warrant us in stating. They throw no light whatever upon the influence of bodily exercise on the more important intestinal digestion, or on assimilation as the whole. Grandea and Leclerc, however, experimented some years ago on horses, comparing the rate of digestion as a whole during periods of rest with the rate during periods of work, as in trotting. The results showed that the latter kind of exercise tended to bring about an inhibition of digestion, the depression amounting to about 34 per cent of the total organic matter of the foodstuffs ingested. But Wolff's more elaborate experiments, at the experiment station in Hohenheim, tend to show on the other hand, that increased work will exert the above influence on digestion only under peculiar conditions; for this investigator found that wide variation in the total amount of work done, or in the length of time the work was continued, had little or no influence, as a rule, upon the assimilation of food.

Recently, Rosenberg (*Archiv f. d. gesamte Physiologie*, Band 52, p. 403) has tested this matter after a somewhat different method, and in some respects more thoroughly. The animal experimented on was a healthy dog weighing 8.1 kilos. In the resting periods the animal was confined in a small cage, the size of which precluded all possibility of excessive motion, while in the period of work the animal was made to run in a peculiar treadmill, so arranged that the work done could be approximately measured. The periods of work were usually of four hours duration, and the exercise was so vigorous that at the end of even the first hour the dog's tongue hung far out of his mouth, and the breathing was greatly hurried and panting. When the work was finished, the animal was usually so exhausted with the extreme labor that he immediately lay down to rest. A weighed amount of food, of known composition, was fed at a stated time each day, and consisted of lean horseflesh, freed from bone, fat and tendons, together with rice and hog fat. The content of nitrogen and fat ingested with the food was determined each day, and the amount absorbed under the different conditions of work and rest was ascertained by direct analysis of the excreta. The experiments were continued through many days, all showing essentially the same results.

These data, which are simply illustrative of many others obtained in this study, show plainly that while gastric digestion may be temporarily retarded by vigorous exercise, the ultimate assimilation of the food, at least in a healthy dog, is practically independent of work or rest. Partial inhibition of gastric digestion may be compensated for by increased activity in the intestine; in any event, the ingested foodstuffs will eventually be digested and absorbed in the healthy organism before reaching the end of the alimentary tract. Indeed, Forster has claimed that in the case of man, digestion and probably also the rate of absorption of the different foodstuffs are essentially the same in rest as in activity.

Certainly, Forster's statement and Rosenberg's results accord closely with common observation regarding the laboring class. Thus, an ordinary laborer, with only an hour's interval for his mid-day meal, must recommence his work at a time when gastric digestion is hardly more than under way, and must continue his work during the progress of the more important intestinal digestion. Yet, in spite of the more or less vigorous bodily exertion accompanying his daily labor, assimila-

tion of the required food is apparently as complete as in the case of people of more sedentary habits. It must not be forgotten, however, that habit and personal idiosyncrasy are important factors in questions of this character, as well as in others of a more psychical nature.—*Dietetic Gazette*.

## FARMER BROWN'S CONCLUSION.

Well, the first thing I heard about 'em  
Was through some boarders we had,  
That talked about microbes and such things,  
Till I own I was fairly scared.  
We've lived on the farm for thirty-odd year  
And been middlin' healthy, too,  
We've raised eight good, smart children  
Which's as well as most folks do.

But last summer we took some professors  
And they made my blood run cold;  
For ghosts and goblins warn't nowhere  
Compared to the yarns they told  
About microbes that swim in water,  
And fly on wings through the air,  
That have feet to walk about with,  
And can stick to your skin and hair.

They peeked over the edge of the well curb  
To see if the bucket was clean;  
And analyzed the pertaters,  
To find the Paris green  
That I put on the tops in early spring,  
Afore the pertaters was growed;  
Though how they thought it could get inside  
Was more than ever I knowed.

They wanted our tomcat kept to home,  
Because one of 'em'd heard of a case  
Where a cat brought home a disease in its fur,  
Though there warn't one to ketch in the place.  
They went up into the paster,  
To see if the cows eat weeds;  
For if they did the milk we used  
Would be full of colic seeds.

They peeked in the sullen, and aired the barn  
Though I allurs took pains to keep clean,  
And sprinkled cleansin' powders around  
That smelt was'n any old deen.  
They hunted 'em faithful all summer,  
Till I kind of pitied the things;  
And thought to myself the Almighty was wise  
When on some of the kinds he put wings.

Well, after they'd gone away in the fall  
Matilda she says to me:  
"The best thing we can do, Caleb,  
Is to let the whole thing be."  
So we came to this conclusion,  
No matter what microbes might bring,  
A little bit of learning  
Is a mighty dangerous thing.

—*Yankee Blade*.

## AMERICANS EAT TOO MUCH.

## PRESENCE OF UNOXIDIZED FOOD IN THE SYSTEM PRODUCES DISEASE.

It is perhaps true that most Americans eat too much. The person who eats much yet is hungry and grows thin is not suffering from lack of food, but from lack of power to digest the food taken into the stomach, or from an abnormally rapid tissue waste, and should consult his physician.

Everyone puts into his stomach more food than is digested by it, but in many cases a great deal of the material really digested does not do its full share of vitalizing work.

We live by the oxidation of food. Food, whatever its chemical nature—if it is food in the true sense—is capable of being changed into a more oxidized material. This chemical change must go on in a more or less active way or death ensues, since the oxidizing of food is necessary for the life of the individual cells, whose aggregation constitutes the whole of our complicated structures.

Now, if more material is supplied to the system than it can use, or, in other words, more than it can combine with oxygen, much of the supply must pass out of the body in a state not fully ex-



hausted of its vitalizing power; and it is highly probable that these unoxidized products are the cause, direct or indirect, of many troubles of a somewhat obscure nature, to which we have applied the names of rheumatism, gout, lithæmia and the like.

Such partially oxidized materials circulate in the blood and are carried to all parts of the body, and are known to be more or less irritating to its delicate structures, organs and tissues.

In the case of the habitual over-eater, the presence in the blood of such materials, which are constantly acting as irritants to the organs, may easily produce changes in the tissues so irritated. As time goes on these changes become greater and greater, and finally result in permanent conditions of disease or in an apparently hastened death.

### THE CIGARETTE EVIL.

Considering what very poor things cigarettes are, it is surprising that they should have such a hold upon the community. But, bad as they are, they are extremely fascinating. The use of them, when carried to excess, becomes a habit that is most difficult to break, while they are so cheap and so convenient that it takes exceptional discretion to smoke them at all without smoking them to a deleterious extent.

Of course it is primarily because they are so cheap that they appeal so generally to boys; but even with boys, who ought not to be allowed to smoke at all, it is not so much the tobacco in the cigarette that does the mischief as the pestilent and insinuating practice of inhaling the smoke. An ordinary boy of wholesome appetites won't smoke cigars or pipe tobacco enough to do him serious harm even he can get them, nor would the cigarettes he might smoke be so serious a menace to his welfare if he could only smoke them as he would cigars. The trouble is that as soon as he gets used to cigarette smoking he begins to inhale the smoke, and presently is fixed in a habit that plays the mischief with him.

Whether anything besides tobacco goes into the ordinary cigarettes is a much discussed question. The effect they sometimes produce on the brain is so different from that due to tobacco in other forms as to favor the theory that many of them contain opium or valerian; but this the manufacturers deny, usually asserting that such drugs are too expensive to put into cheap cigarettes, even if it helped their marketable qualities. One thing besides the tobacco goes into them, and that is the paper, the fumes of which are, doubtless, bad for the throat and lungs as far as they go.—*Hall's Journal of Health.*

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### MUTTON SOUP.

Save the water that a leg of mutton has been boiled in, and let it stand over night. When wanted, remove the grease from the top and add salt and pepper to taste, rice or noodles if desired. Just before sending to the table add a little chopped parsley.

#### STUFFED EGGS.

Boil the eggs until hard, remove the shells, and cut in half. Remove the yolks and mash, adding a little olive oil, a little chopped meat of any

kind, pepper, salt, and Worcestershire sauce to taste, a little vinegar. Fill the whites with this mixture.

#### CHOPS AND TOMATOES.

Broil some French chops over a clear fire; when done, season well with butter, pepper and salt, and pour over them the following sauce: Take a can of tomatoes and stew them with a sliced onion for twenty minutes; add a lump of butter the size of a walnut, pepper and salt to taste, and dash of cloves; thicken with flour rubbed in a little water, strain through a sieve. Garnish with parsley.

#### POTATO CROQUETTES.

Boil and mash some potatoes, add salt, pepper, and minced parsley; pour into little balls, dip in egg and bread crumbs. Fry in lard.

#### LAYER CAKE.

One cup sugar, yolks of two eggs, white of one-half cup water, two cups flour, two teaspoonfuls baking powder, a pinch of salt. Bake in jelly tins.

*Filling.*—One cup sugar moistened with four tablespoonfuls hot water, half cup chopped raisins. Cook until it strings. Add the white of an egg, and beat until it cools.

#### BRADFORD CAKE.

Six eggs, one pound sugar, one pound flour, three-quarters of a pound butter, three-quarters of a cup of milk, two pounds of seeded raisins, one nutmeg.

### TREATING WOODEN FLOORS.

#### HOW TO STAIN AND POLISH THEM.

A "constant reader" asks that the directions given some time ago for treating wooden floors in a country house should be repeated. Her floors, she says, are not of hard wood, so that the treatment is somewhat different. If the floors are new the stain may be applied directly; but if they have already been covered with a carpet, they are apt to be somewhat soiled, and should then be washed with a strong solution of soda, and if any stains remain they should be sandpapered off, rubbing the sandpaper with the grain of the wood. Or perhaps sapolio alone will be sufficient to remove them. After the floor is quite dry apply the stain. Do not attempt graining; it is altogether too complicated, and never really looks like the natural wood after all. There are three colors in ordinary oil paints that make particularly good stains—raw sienna, burnt sienna and burnt umber. Raw sienna produces a sunny, yellowish tint very much the color of varnished yellow pine. Burnt sienna makes a fine mahogany or cherry color and burnt umber a good brown. For floors that are much used, the raw sienna is best, as it does not show dust or scratches as much as a darker color.

To make a stain, dilute the ready-mixed paint with about two-thirds of turpentine. This will sink into the porous wood and dry immediately. The more turpentine that is added the lighter the tint. A one-pound can should stain at least two rooms, say 15x20 feet. After the floor is dry give it a coat of hard oil or boiled oil as it is sometime called. This first coat acts simply as a filler to harden the floor, and if the wood is soft it will require two more coats. One more only being sufficient if the floor is hard wood. Each coat should be left to dry twenty-four hours. If quick work is required shellac will do equally well for the last coat, and it dries in an hour, but it is twice the cost of raw oil and is no better in the end.

To keep the floors bright they should be wiped off every week with a mopstick with a flannel which has been impregnated with linseed oil or—

what is much better in the end, although more trouble in the beginning—keep them waxed. A lady who prefers old-fashioned methods to new, says that she has found no better way of waxing floors than that used all over France. Take the crude yellow beeswax and rub it all over the varnished floor and polish off the streaks with the flat iron or a brick done up in an old bit of carpet. This should be repeated once a week until the floors acquire a good polish, and they may afterward be kept bright by rubbing them over once a day with a flannel cloth fastened into a mopstick or a cloth tied over an old broom, using the wax and the brick two or three times a year.

### FOUL REFRIGERATORS.

An old subscriber asks:

Why is it meats, fish, and even fruit, when left for a few days in a refrigerator in which a thermometer marks a constant degree of heat of less than 40 deg. F., soon acquire a disagreeable odor and taste, while according to the scientific journals meats are carried from Australia to England perfectly fresh at the same temperature? My refrigerator has become practically useless from this cause, even milk and other foods soon acquiring the odor and taint of spoiled meat.

To which the *National Druggist* replies:

Probably because your refrigerator is not dry. Dryness of the atmosphere is the first essential in the preservation of animal matter in cold storage. Every particle of moisture must be eliminated, and thus, and thus only, can putrefactive processes be prevented. Investigations have shown that the bacteria which produces putrescence may live, and even multiply, in freezing water, while they are practically inert in a perfectly dry atmosphere. A few pieces of fresh unslaked lime, frequently renewed, placed in the bottom of your refrigerator box, will be of great assistance in this direction, or, if it is lined with porcelain, you might use concentrated sulphuric acid as a dryer, placing bits of broken glass in the same so as to increase the absorbing surface. We would advise you, however, first to empty the box and thoroughly cleanse and disinfect the same, using a strong solution of corrosive sublimate as the disinfecting agent, and repeating the disinfection at stated intervals.

### CLEANING STAINED WHITE PLUSH.

The *National Druggist* answers a correspondent as follows: I have a piece of white silk plush which was used for decorating a show-case during the holidays that has become stained by the leaking of a bottle of perfumery. Is there any way of restoring it, so that it can be used again?

The difficulty in this case lies not so much in removing the stain as in restoring the smoothness and general appearance of the plush. You might proceed as follows: Place the plush face upwards upon a blotting pad composed of several sheets of thick blotting paper somewhat larger than the stain. Treat the latter first with absolute alcohol, applied with a cotton wad, stroking lightly, and in the direction of the "lay" of the plush. Use plenty of alcohol, and carry it an inch beyond the borders of the stain. If the pad becomes saturated, renew it. This will remove all matters soluble in alcohol. Let dry, and if there are still traces of the stain, treat in the same manner with benzol (not benzine), or with chloroform. Finally, lightly brush the surface of the plush with a cotton wad dipped in chloroform. Let dry, and then proceed to raise the nap of the plush by holding it, face upward, over the steam from a pan of boiling hot water: The same result may be obtain-



ed, if the stained surface is small, by wrapping a hot brick with a wet towel and lightly applying the rear portion of the plush to it, stroking the face, or plush side, with a very fine, soft brush. This is the method used by professional cleaners for cleaning and raising the "pile" of velvets, and should succeed with plushes.

#### HAIR TONIC.

Quinine sulphate .. 40 grains  
 Pilocarpine hydrochlorate.... 8 "  
 Tincture cantharides..... 2½ fl. drs.  
 Glycerine..... 2½ fl. ounces.  
 Alcohol..... 6 "  
 Spirits of myrcia } q. s. to make 1 pint.  
 Water..... }

Color to suit.

Dissolve the quinine sulphate and pilocarpine hydrochlorate in about 2 fluidounces of water with the aid of heat; mix the glycerine, tincture of cantharides, alcohol, and spirit of myrcia; when the former mixture has cooled mix the two solutions, and add sufficient water to make 1 pint. Color to suit with cudbear and caramel, or cudbear and cochineal.

### ADULTERATION.

#### A NEW CIDER FRAUD.

A much advertised receipt pretending to tell how to make cheap but good cider reads as follows:

A good imitation of country cider can be made as follows: To each gallon of water add one-half pound of granulated sugar, acidulate with tartaric acid and flavor with oil of apple, previously put in alcohol; color with caramel, and to twenty gallons of this mixture add two gallons of genuine country cider.

#### ADULTERATED SPICES.

IT HAS GROWN TO A SCIENCE, DESPITE ALL THE LAWS AGAINST IT.

In these days of fierce competition and fraudulent dealing adulteration has become an art in which a knowledge of science and the ingenuity of trade are freely exercised for deceptive purposes. Perhaps no ingredients lend themselves so readily to the manipulations of the "sophisticator" as spices.

People in general know so little about spice that it can be adulterated in the most wholesale and barefaced manner. It requires the trained skill of an expert to fully expose the many frauds that are perpetrated in the trade.

It is not at all an uncommon thing to see ground spices sold at less than half the price of the unground article, a fact which sufficiently indicates that grinding is not the only process which the spice undergoes.

It means, of course, that the ground spice has been more than doubled in its bulk by the addition of some cheap substance. Some firms go so far as to advertise adulterated goods, and evade the law by calling them compounds.

Ground ginger is adulterated with meal, rice, flour, starch, cayenne pepper and manilla rope.

The true ginger root has a very fine hair-like fiber running through it, and this is found in the ground article. Many people will not buy ginger unless they see the fibre, and bits of ground rope are made to take their place in the adulterated article. Cayenne pepper gives the necessary pungency. Sometimes chrome yellow, a poisonous article, is used for coloring.

Cloves are adulterated with an admixture of the dried and ground twigs of the trees from which the cloves are gathered; also with ground cocoanut shells and pepper dust.

Allspice is also treated in the same way.

Considerable cleverness is shown in the adulteration of cinnamon and nutmeg. Stale and broken biscuits or damaged and common flour are baked in the oven, and afterward ground up to a fine powder, and this is freely mixed with the ground cinnamon and nutmeg.

In adulterating mace, Venetian red is mixed up with this baked dust.

Cayenne pepper is adulterated with meal, farina, cocoanut shells, Venetian red and salt, the whole being then ground up together.

In some cases the essential oils are even extracted from pure spices prior to the grinding. —*London Confectioner.*

**LEAD IN WATER.**—A rough, but reliable, method to detect lead in water, is to add a few drops of acetic acid to ten ounces of the water contained in a pint stoppered bottle, and a grain or two of bichromate of potash, and shake well. If the water contains lead it becomes opaque, through the formation of bichromate of lead.

#### TEA CHESTS ARE LEAD-LINED.

It is often said that tea chests are lined with tinfoil, but just as there is no lead in a lead pencil so there is no tin in this tinfoil. The thin lining consists of lead, and is said to be the purest lead that can be found. Among the countless undeveloped resources of the Celestial Empire is a supply of lead which would yield millions annually if properly worked, and from the inexhaustible supply the Chinese take what they need for making linings for tea chests. The lead is melted in small vessels and poured out while hot.

Before it has time to cool it is pressed into a sort of mold, and when enough squares have been produced they are soldered together, and the sheet thus formed is placed in the chest as a lining. Then the top layer of lead is soldered on, and all possibility of the tea losing strength on the voyage is at an end. The lead is so pure and the solder used is so fine that the lining of an empty chest is worth more than the chest itself, and is in great demand for making the best quality of solder. —*St. Louis Globe-Democrat.*

#### ARTIFICIAL COLORATION OF ORANGES.

A. Barillé points out that many of the so-called "blood" oranges that are offered for sale are colored artificially. On opening some it was ascertained that the pulp was free from the red color which characterizes this variety, and that they were simply ordinary oranges of which the rind had been colored by the vender. Microscopical examination of a section of the epicarp revealed the presence of a coloring matter with a violet tinge localized in the glands and not passing beyond the cuticle. At certain points where it had accumulated near the glands the color was dark red. The coloring matter employed is stated to be scarlet of Biebrich (Rocelline), which is a nitro derivative of amidoazobenzol, obtained by adding diazobenzol to an acid solution of b-naphthol. It is applied in aqueous solution and is not poisonous. —*Jour. de Pharm.*

The best commentary on ambition is seen in the efforts of a fat man to climb a greasy pole.

Appetite for office is like a hunger for salted herring—it can be gratified but not satisfied.

### MISCELLANEOUS.

#### ROQUEFORT CHEESE.

HOW AND WHERE IT IS MADE.

Travelers in the south of France are greatly interested in what has been at some remote time the scene of gigantic volcanic disturbances. The ancient granite rocks have been split and torn apart, and from the bowels of them have been erupted vast masses of lava, which have flowed in great streams and buried the ancient surface under hundreds of feet of curious basaltic rock. In its turn this rock has been broken up and fissured by repeated outbursts and thrown up into a mountain range, in which are caverns and caves, from which belch forth hot springs, sulphurous and bubbling with gases, the effects of the fires which still exist in the depths.

One of these mountains consists of limestone and is covered with luxuriant grasses. But as to its interior it is hollowed by the volcanic forces into a series of caves formed of vast masses of rock thrown together as if dumped promiscuously from some great height, and all connected with each other and with some subterranean outlet, by which constant cool currents of air, always of the same temperature and degree of humidity, flow in a never-interrupted stream. By no means known to man could so perfect an arrangement for a chemical laboratory of even temperature and moisture and free from every impure influence have been better provided. And this laboratory, by some happy accident, perhaps, to the aboriginal cave dweller, was discovered and turned to use.

If the aboriginal man of that region, whose bones and those of his sheep and dogs lie together in these caves, made use of this rock and the caves under it, and the rich grasses that covered the soil on it, he possibly milked his ewes and made of the milk just such cheese as the Frenchman of the present day makes in precisely the same way, and sends to New York for the use of the luxurious person who is willing to pay \$1 a pound for it. And just the same, the predecessor of the Frenchman of to-day, 2,000 years ago, sent the same kind of cheeses to the equally luxurious city of Rome for the feasts of the rich people of that city. This is doubtless the oldest kind of cheese that has come down from such a distant period to the present unchanged in character, and always popular for its exquisite qualities.

This is the Roquefort cheese that is made from ewe's milk in a most interesting manner. The sheep have been bred always for their milking quality, and the bulk of the cheese is yet made of this kind of milk, but recently, as the demand for it has increased, some cow's milk is used, without any difference materially in the quality of the product. It is not the milk, or any special preparation of it, upon which the character of the cheese depends, but the unique process of curing in these caves, in which the temperature is precisely the same every day in the year; the atmosphere is pure and of an unchangeable moisture, so that the special germs which cause the fermentation always act in precisely the same way, and thus the cheese never varies in quality. So that whether cow's or sheep's or goat's milk is used, the cheese is always Roquefort.

It is to-day just what it was when the luxurious Romans found it, and what it was when the Gauls strove ineffectually against the superior civilization of their conquerors. It was the method of this conquering nation to preserve everything that was worth the saving they might find in the countries they overran, disturbing as little as



possible, but merely transferring into their own hands the governments they overthrew. Thus all useful industries were preserved, and a settled and powerful government tended to encourage and strengthen them.

Thus this cheese has descended to our day without any change whatever in the process, and all the modern discoveries in the science of cheese-making only explain the true inwardness of it and make plain to the modern practitioner what was before obscure, and learned only by many years of practice in these dark, cool, and windy caves. We may now understand the reason for every part of the intricate process, and may see in the mind's eye the minute germs at work changing the caseous matter into fat, and developing that rich flavor by which this cheese has been known for more than twenty centuries, and stands to-day as a triumph of uneducated art.

The mountain on which the village of Roquefort is situated is called Larzac, and is about twenty-five miles in length and nearly 3,000 feet high. The soil is chiefly limestone and the fertility of it is only moderate. The natural pasture is thin, but it is made up by crops of clover, sainfoin, lucern, and mixed grains, as tares and oats, or rye and peas. These mixed crops, under good culture, yield abundantly, and afford the larger part of the subsistence of the sheep, of which about 300,000 are kept to supply the milk. By close breeding this race of sheep has become specially prolific of milk, rich in fat and caseine, having 5 and 7 per cent respectively of these elements of cheese. It is not so sweet as cow's milk.

This cheese is what we call a "half-skim"; that is, the evening's milk is skimmed, after having been heated to near boiling, and set until the morning. The fresh milk and the skimmed evening's milk are warmed to 90 deg. and then curdled by the addition of a large spoonful of rennet to 50 quarts or 120 lbs of milk. The heating and the quantity of rennet used are varied as the weather may be warm or damp, as this has some effect upon the behavior of the milk, as is well known to cheesemakers. The curd, when sufficiently firm, is cut to liberate the whey, which is dipped off, and the curd is lifted into the molds. These are of earthenware, and glazed, cylindrical in form, and pierced with holes for the drainage of the whey. They are 8 inches in diameter and 3½ deep, thus making a cheese that weighs five pounds when fully cured. As the molds are filled, the curd is inoculated with a ferment made of dried moldy bread powdered, this being well distributed among the curd by the fingers as the curd is placed in the mold. The curd is heaped above the edge of the mold 3 inches, so that as it shrinks the cheese will just fill the mold.

A second mold is then filled in the same way and placed on the first, and the curd is covered with a plate of lead, which serves to press it and get rid of the excess of moisture from it. When this has been effected the cheese will have shrunk within the limits of its mold. The whey drains from the cheeses into channels cut in the table upon which they are laid, and is removed. The apartment in which this work is done is an outer cave, inclosed by a wall in front.

Here the cheese stays until it is drained of the whey, being turned twice a day. A special part of the process at this stage is the warming and moistening of the rooms by means of vessels filled with steaming warm water, frequently replenished. About three days completes the drainage of the cheese, and it is then moved to the drying room, which is an airy, cool apartment furnished

with tables covered with cloths on which the cheeses freed from the molds are laid. They are turned morning and evening for two or three days, when they are taken into the caves for the special treatment to which they are subjected, and which has the effect of giving to this raw curd a delicate and delicious flavor and mellowness.

The caves being formed by the displacement, fracture and heaping together of a vast number of rocks, are made up of an intricate labyrinth of open spaces and narrow passages, through which currents of cold air are continually passing. These air currents are controlled by closing up some of the passages, leaving openings that may be closed or shut as the wind outside may make desirable. Some of the spaces are arched over with masonry, but all are profoundly dark and the visitor sees only the little glimmering lights flickering in the darkness as he passes the open portal of one of the caves, where the women, dimly seen, are scraping the mold from the cheeses or turning them or moistening them, and in their curious ways aiding the wonderful germs at work to effect the slow changes in the curd.

The temperature of the caves is kept at 60 deg. by the use of the ventilators, and the moisture is sustained at a humidity of 48 deg. When the cheeses are brought into the caves they weigh 18 per cent of the milk used.

They are now laid on the ground on clean straw to be gradually cooled down to the temperature of the cave. They then go to the salting room, where they are rubbed with salt on one face, which is turned to the ground; a second cheese is salted in the same way on one face and laid on the first; a third one is then salted and laid on the second one. In this way the cave is filled with cheeses. In twenty-four hours the cheeses are salted on the other face and reversed and placed as before. This frequent reversing is to keep a certain quantity of moisture in the cheese and develop the growth of the special fungus which has been sown in the curd. This is the common green mold, *Pencillium glaucum*. In forty-eight hours more the cheeses become viscous and are rubbed with a coarse cloth and again piled as before. In two days more the fungus has spread through the cheese and appears on the outside as a sticky pasty matter. This is scraped off with knives, with a thin stratum of the crust, which is sold as an article of food.

The cheeses are now sorted, the most solid being placed on the floor and the others on them in threes, as before. In eight days they become covered with a yellowish-red mold, and this with a forest of minute vegetation of white mildew. This is scraped off and given to pigs. In twelve days more a second scraping (*raclage*) is given, the best cheeses making the growth of fungus the most quickly. They undergo this process frequently as the mold gathers, until the character of it changes, showing that the condition of the curd has changed. First, the red mold that appears on cream in damp dairies, and known by its circular spots of bright red, and then a dense blue mold cover the cheeses and announce the completion of the curing. The cheeses are then finally scraped, wiped and wrapped in tinfoil, which excludes the air and are then ready for market.

As the curing proceeds, those cheeses that indicate superior quality by the appearance of the mold on them are kept separate and held for a later sale, when the exquisite flavor so highly valued becomes developed, and these are sold at the highest prices.

This whole process, intricate as it is, has been learned during no one knows how many centuries, but at least twenty. It has been taught by

father to son, or mother to daughter, and by this long practice perfection has been reached. But with our present knowledge of the changes wrought by the action of these minute plants on the nitrogenous matter of the curd, there will be no difficulty in formulating a method of making this cheese that will produce a quality equal to the original, if the means of controlling the curing by temperature and moisture are provided.

It will be noticed by the expert in cheese-making that this variety owes its character principally to the fact that the curing of it depends upon the culture in the cheese and not on it of the fungi by which the changes in the curd are produced. It is, in fact, similar in this respect to the equally rich and fine Stilton of England, which is inoculated with the fungus by inserting skewers dipped in a preparation of the mold or by placing in the curd fragments of the fungus as it is placed in the mold. The actual inoculation produces a much more effective operation than the mere outside exposure to the fungus germs that exist in the air, and just as culture produces better effects in other plants desired for special qualities.

#### CANCELLED POSTAGE STAMPS.

##### WHAT DO THEY DO WITH THEM?

The New York *Journal of Commerce* gives the following interesting items on this subject:

The public interest in the reason for collecting cancelled postage stamps which we discussed so fully several years ago and repeated last year has again revived. We are once more besieged by inquiries from all parts of the country in behalf of those who have been appealed to by persons interested in making these collections. The younger of these will welcome, we think, a brief history of the movement. A whole generation has passed away since there first appeared a paragraph making its rounds through the newspapers of the country, calling attention to the desire of a young girl for cancelled postage stamps. A wealthy lady had offered her, it was said, a thorough education in the best public schools if she would show by a practical test that she had spirit and perseverance enough to profit by this scholastic training. And the condition named was her collection within one year of one million cancelled stamps. All who could be interested in the well-being of the fair young damsel were urged to clip from their letters the cancelled postage stamps and forward them to a given address.

We tried for some time to trace the authorship of this appeal. A package of stamps would reach the address through the post office, but the identity of the receiver could not be established. At length through the assistance of the Post Office Department a clew was obtained. A man about 40 years of age, with red hair and a sinister cast of countenance, claimed to represent the girl, but he could not produce her, nor could he name or furnish the address of the wealthy patron who proposed to educate the aspirant for knowledge on her manifestation of sufficient energy and force of character to profit by this liberality. We came to the conclusion at that time that no use was made of the material collected, and that the object was simply to obtain for other purposes the names of charitable people likely to respond to an appeal of this character. But subsequent developments showed that we were mistaken in this theory.

Very soon after there came out and was sent on its travels a different story. The writer declared that the first paragraph was wholly unauthorized, but that a young woman had been promised a handsome sum which she intended to devote to missionary purposes as soon as she could secure



the million stamps required. Each month a new theory was invented, and an air of mystery was thrown around the use which was to be made of the collection. There was a hint that a manufacturing firm had discovered a process by which in the boiling of the cancelled stamps an extract could be made that would give a lustre or a gloss or a special consistency to the product of their establishment which it could not otherwise possess. About this time the government became alarmed lest the intent was to defraud the revenue by washing the stamp, thus erasing the marks of cancellation, and reselling it to the patrons of the post office. Detectives tried in vain to discover the direction taken by the stamps after they fell into the hands of the receivers, but the public were cautioned against responding to these appeals.

This checked the career of the anonymous writer, and there appeared soon after a series of formal advertisements soliciting the collection for certain charitable uses. Now it was to found a bed in a hospital, and then it was to help educate a young man for the ministry, and again it was to relieve the necessities of a family of orphaned children. We became satisfied that there was a market somewhere for these little items of paper which we had regarded as useless, and that some one was pocketing a handsome profit out of their sale. We gave once in our columns a curious history of our investigations and of the shrewd methods by which the collectors managed to obtain their supplies and evade recognition which we have not space to repeat. At last we discovered the secret, and the solution of the problem was so simple that the only mystery was that it remained hidden so long. If we were permitted to give the details of our last quest and its results we could add very much to the interest of the narrative.

There are in every country a large number of stamp collectors who preserve the little pictures as a matter of curiosity. In almost every family there are some of the children who are seized with the ambition to make up a book of stamps. It was easy to procure specimens of those used in this country, but foreign issues were obtained with more difficulty. The object of the dealers was to set everybody who could be induced to undertake it at work to save and gather together the cancelled stamps useless to the possessors and to place them in the hands of those who had a market for them. A few of the American and most of the foreign were sold here, but the great mass were sent abroad. Of late years where the correspondents through the rural districts or in the city had gathered enough of the stamps to make it an object, and did not care to give them away without more definite information as to their destination and the use to be made of them, the dealers would offer a small sum for them and make the purchase if the offer was accepted. But most that have been obtained have been gathered on the plea that they were designed for a charity of some description and have been sent gratuitously to the address of those who have been the authors of the appeal.

As the largest portion of the collections went abroad we were curious to trace them to the ultimate market. Just here we found the same instrumentalities at work abroad to gather in supplies that were employed in this country. We sent a letter to the address of one who was named as a clergyman connected with the Episcopal Seminary at Liege, Belgium, and have his reply. He states that he collects as many cancelled stamps as possible "in order to found a Christian village in Congo, Africa," and he incloses a very elaborate circular printed in England for distri-

bution here, in which he insists that when forty millions of these stamps have been gathered at Liege, the troubles which "the poor African negroes are suffering" will be at an end. He begs most eloquently that all who can will help on this good work and "gladly contribute toward saving from the slavery of body and soul so many millions of negroes." He says: "We sell the stamps, and especially the rare ones, to those who make a collection." We had another most touching appeal from an orphanage for girls (Institut des Billodes) at Locle, Switzerland. This institution has been gathering these stamps by soliciting gratuitous contributions of them for five years. The stamps are sold to collectors, and the printed reports show that the receipts from this source were 1,200 francs in 1888, 1,300 francs in 1889, 1,500 francs in 1890, and 1,800 in 1891. The report for 1892 is not yet completed. The price appears to average a little over two cents for a hundred stamps.

The whole mystery is thus explained. There is a regular market both here and abroad for cancelled postage stamps. They are not designed for fraud, to be cleansed and re-used, nor, as some have stated, to adorn the walls of an imperial palace. Some may be employed for decorative purposes, but the most are placed in the books of collectors. A few charitable institutions have begged them in order to sell them and thus increase their funds. Most of those who have solicited contributions in the name of charity have used this plea in order to obtain without cost to themselves the means of supplying a market that gave them a profitable business. All who make collections should understand that the stamps have a market value and can be sold if they so desire. We have no wish to prevent any one who is charitably inclined from contributing his painstaking service to the relief of the "poor suffering negroes of Congo," but we suggest that before he sends the parcel he makes sure that the receivers are really intent on missionary work. If it should turn out that the "Christian village of Congo" is only a paper device to draw contributions for the pockets of the advertiser, there is no reason why anyone who earns his own living should engage in the undertaking.

#### WHAT IS A BILLION?

BUT FEW CAN APPRECIATE THE REAL SIGNIFICANCE OF THAT LITTLE WORD.

Sir Henry Bessemer writes:

"It would be curious to know how many of your readers have brought fully home to their inner consciousness the real significance of that little word 'billion' which we have so often seen used in your columns. There are, indeed, few intellects that can fairly grasp it and digest it as a whole; and there are, doubtless, many thousands who cannot appreciate its true worth, even when reduced to fragments for more easy assimilation. Its arithmetical symbol is simple and without much pretension; there are no large figures—just a modest 1 followed by a dozen cyphers, and that is all.

"Let us briefly take a glance at it as a measure of time, distance and weight. As a measure of time I would take one second as the unit and carry myself in thought through the lapse of ages back to the first day of the year 1 of our era, remembering that in all those years we have 365 days, and in every day just 86,400 seconds of time. Hence, in returning in thought back again to this year of grace 1893, one might have supposed that a billion of seconds had long since elapsed; but this is not so. We have not even passed one-sixteenth of that number in all these

long eventful years, for it takes just 31.687 years 17 days 22 hours 45 minutes and 5 seconds to constitute a billion seconds of time.

"It is no easy matter to bring under the cognizance of the human eye a billion objects of any kind. Let us try in imagination to arrange this number for inspection, and for this purpose I would select a sovereign as a familiar object. Let us put one on the ground and pile upon it as many as will reach twenty feet in height; then let us place numbers of similar columns in close contact forming a straight line and making a sort of wall 20 feet high, showing only the thin edges of the coin.

"Imagine two such walls running parallel to each other and forming, as it were, a long street. We must then keep on extending these walls for miles—nay, hundreds of miles, and still we shall be far short of the required number. And it is not until we have extended our imaginary street to a distance of 2,386½ miles that we shall have presented for inspection our one billion of coins.

"Or in lieu of this arrangement we may place them flat upon the ground, forming one continuous line like a long golden chain, with every link in close contact. But to do this we must pass over land and sea, mountain and valley, desert and plain, crossing the equator, and returning around the southern hemisphere, through the trackless ocean, retrace our way again across the equator, then still on and on, until we again arrive at our starting point; and when we have thus passed a golden chain around the huge bulk of the earth, we shall be but at the beginning of our task. We must drag this imaginary chain no less than 763 times around the globe.

"If we can further imagine all those rows of links laid closely side by side and every one in contact with its neighbor, we shall have formed a golden band around the globe just 52 feet 6 inches wide and this will represent our one billion of coins. Such a chain, if laid in a straight line, would reach a fraction over 18,328,445 miles, the weight of which if estimated at ¼ ounce each sovereign, would be 6,975,447 tons, and would require for their transport no less than 2,325 ships each with a full cargo of 3,000 tons. Even then there would be a residue of 447 tons, representing 64,081,920 sovereigns.

"For a measure of height let us take a much smaller unit as our measuring rod. The sheet of paper on which the *Times* is printed, if laid out flat and firmly pressed together as in a well-bound book, would represent a measure of about 1-333d of an inch in thickness. Let us see how high a dense pile formed by a billion of these thin paper leaves would reach. We must, in imagination, pile them vertically upward, by degrees reaching to the height of our tallest spires; and passing these the pile must still grow higher, topping the Alps and Andes and the highest peaks of the Himalayas and shooting up from thence through the fleecy clouds, pass beyond the confines of our attenuated atmosphere, and leap up into the blue ether with which the universe is filled, standing proudly up far beyond the reach of all terrestrial things; still pile on your thousands and millions of thin leaves, for we are only beginning to rear the mighty mass. Add millions on millions of sheets, and thousands of miles on these, and still the number will lack its due amount.

"Let us pause to look at the neat ploughed edges of the book before us. See how closely lie those thin flakes of paper, how many there are in the mere width of a span, and then turn our eyes in imagination upward to our mighty column of accumulated sheets. It now contains its appointed number, and our one billion of sheets of the *Times* superimposed upon each other and



pressed into a compact mass has reached an altitude of 47,348 miles!

"Those who have taken the trouble to follow me thus far will, I think, agree with me that a billion is a fearful thing, and that few can appreciate its real value. As for quadrillions and trillions, they are simple words, mere words wholly incapable of adequately impressing themselves on the human intellect."—*London Times*.

#### THERE'S WARNING IN THIS.

A religious phonetic reporter in London thought to try his hand on a hymn as sung by the choir. He got this:

Waw kaw swaw daw aw raw,  
Thaw saw thaw law aw raw,  
Waw kaw taw thaw raw vaw vaw braw,  
Aw thaw raw jaw saw aw!

On referring to the hymn book he discovered that the words supposed to be sung were:

Welcome, sweet day of rest,  
That saw the Lord arise!  
Welcome to this reviving breast  
And these rejoicing eyes!

#### OFT QUOTED PHRASES.

Many of our most usually quoted phrases are from the Bible, among them being, "No rest for the sole of the foot;" "Darkness which may be felt;" "Bring down my gray hairs with sorrow to the grave;" "The wife of his bosom;" "I am going the way of all the earth;" "A still, small voice;" "All that a man hath will he give for his life;" "There the wicked cease from troubling and the weary be at rest;" "Man is born to trouble as the sparks fly upward;" "Oh, that my adversary had written a book;" "The lines are fallen to me in pleasant places;" "His enemies shall lick

the dust;" "Happy is the man that hath his quiver full;" "The heart knoweth its own bitterness;" "Heap coals of fire on his head;" "Open rebuke is better than secret love;" "There is no new thing under the sun;" "A living dog is better than a dead lion;" "The race is not to the swift, nor the battle to the strong;" "Wise in his own conceit;" "Grind the faces of the poor;" "Weighed in the balance and found wanting;" "Who touches pitch will be defiled;" "Laughing to scorn;" "He that runs may read;" "Do not cast pearls before swine," and a great many other expressions that have served the turn of thousands of years and help us to realize how little human nature changes in the generations that go by, since what suited the men of so long ago expresses our minds still so well.—*London Tid-Bits*.

#### THE STAR OF BETHLEHEM.

Taking into consideration that the Bible makes mention of only three kinds of heavenly bodies, viz., sun, moon, and stars, and that every unusual light, celestial or mundane, was called a star, I feel justified in emphatically asserting that what the wise men saw was not a star at all, but a supernatural light which quite likely appeared in their own dwellings or, at least, at their dwelling-places, and was not again visible until their arrival near Bethlehem when it reappeared, and "went before them till it came and stood over where the young Child was."

If the conjunction of Venus and Jupiter was what they saw in the east, and as Venus was then approaching superior conjunction with the sun, it is plain that there could not have been another conjunction of Venus and Jupiter on their arrival in Bethlehem, after a journey of several days or weeks. At that time Venus must have been from ten to twenty degrees east of Jupiter.

A star cannot by any possibility go before and guide a person to any particular house.

Taking into consideration all the circumstances connected with this much-discussed question, I am strongly of opinion that, though of Divine origin, the phenomenon seen of the wise men was wholly terrestrial and local.—*Louis Swift in Literary Digest*.

#### WIT AND HUMOR.

Moriarty—And yez ask a dollar a box for shtrawberries because it's the middle av winther, do yez?

Dealer—That is just the reason.

Moriarty—Sure they ought to be tincints a box, now.

Dealer—Why?

Moriarty—Because they are not in sayson. Sure, isn't furnace coal cheaper in July? Arrah, but it's a robber yez all are, and I'll buy no shtrawberries till June, so I won't.—*Portland Transcript*.

Uncle Henry—Willie, I heard you were suspended from Sunday-school right after the Columbus tableaux?

Willie—Yes, sir; I was Columbus in th' tableaux an' I had ter show th' Spanish court how to make a egg stand on its end.

Uncle Henry—But why were you suspended?

Willie—For nothin'. How could I have known the egg was bad?—*Judge*.

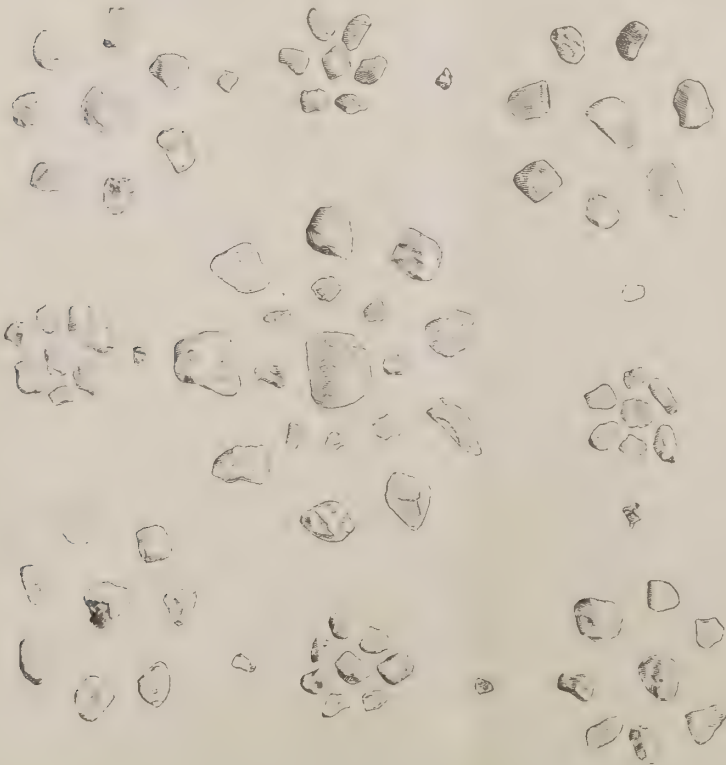
The man who doesn't love his brother on the other side of the earth doesn't love his brother on the other side of the street.

The bravest preacher the world has ever seen is the one who is not afraid of his own congregation.—*Atlanta Constitution*.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Sprngs, Va.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## THE CHOLERA IS COMING.

The Hon. W. E. Chandler, chairman of the Senate Committee on Immigration, discussing in the *North American Review* the question "Shall Immigration be Suspended" (which he vehemently affirms) says: "No one believes that we can prescribe and enforce upon foreign governments and the steamship officers such measures as will keep the cholera from coming here. It will sail into our ports and overtax all the resources of our quarantine and health authorities, and will alarm and distress our whole people, even if it does not widely break into our borders and ravage our homes." All of which is probably quite true. And we must not think the prohibition of immigration will be a safeguard. The cholera travels in the cabin as well as the steerage. And the World's Fair at Chicago will bring tens of thousands of cabin passengers whom we cannot shut out and who may import with them trunksful of cholera germs for aught we can know to the contrary in advance. Accepting it then as a foregone conclusion that 1893 is to be another cholera year, we will do well to sufficiently familiarize ourselves with that prospect that the breaking out of the epidemic may not create a panic among us, but that by cool and intelligent preparation we may minimize its dangers. Cholera is most likely to kill 1st, cowards who are scared to death by it; 2d, dirty persons; 3d, those who eat improper food or live amid filthy and insalubrious surroundings; 4th, such as have already enfeebled vital organs, impure blood and low vitality. Is there any good reason why anybody should volun-



stand—test it for easy work—quality of work—for saving time and labor—wear and tear—economy—test it any way you will—but test it. You'll find Pearline irresistible. Beware of imitations. Pearline is never peddled. Manufactured only by JAMES PYLE, N. Y.

## Does it hurt the Clothes?

We hear that some woman said of Pearline—"it's the greatest thing I ever saw for easy washing and cleaning, in fact it does so much I'm afraid of it." She recalls the old saying, "too good to be true."

*How absurd to suppose that the universal popularity of Pearline is due to anything but wonderful merit.*

*How absurd to suppose that millions of women would use PEARLINE year after year if it hurt the hands or clothing.*

*How absurd to suppose that any sane man would risk a fortune in advertising an article which would not stand the most severe (and women are critical) tests.*

That's just what Pearline will

## Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For sale by all Druggists.

tarly enroll himself in either of those classes—perhaps excepting the first, which may not be a matter of self control? Every one may wash and keep clean. Nobody but fools, who can be spared, will eat unripe, wilted, stale and fermenting vegetable or tainted animal food, especially when cholera is abroad. Soap, water, pure air and the liberal use of germicides will rectify the conditions of even the worst places of human habitation and employment. And as for the latter unhappily large class, prompt and sensibly directed endeavor will enable them, in almost all instances to put themselves in such sturdy trim, before the advent of warm weather, that they will either be proof against the dreaded "comma bacillus," or if they suffer an attack will have the best possible chance for recovery. A primary essential to this attainment is the restoration of vigorous healthful action to the vital organs, which have through any causes been enfeebled or perverted. If the stomach and bowels are not properly discharging their functions, the assimilative processes are quickly deranged, deleterious matter being taken up and carried into the blood, instead of the elements which should enrich it for the sustenance of the entire animal economy. The liver and kidneys overtaxed by the excessive work of elimination devolved upon them, become torpid or inflamed and perverted in their action. The blood, loaded with fibrin and white instead of red corpuscles, clogs the valves of the heart and fails to nourish the nervous system. There is one remedy and only one, which corrects all these evil conditions together, rectifying the disorder of the digestive and assimilative processes, purifying and enriching the blood and so imparting vigor to the entire system. That invaluable specific is Ayer's Compound Extract of Sarsaparilla which in addition to the excellent depurant from which it takes its name is made yet more potent by the active principles of stillingia, yellow dock and other well-known alteratives and tonics. It should be universally taken this spring.

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By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian tube. When this tube is inflamed you have rumbling sound or imperfect hearing, and when it is entirely closed, deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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The best tonic known, furnishing sustenance to both brain and body.

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This is the name under which the Vacuum Oil Company of Rochester, N. Y., sells a preparation of residual petroleum oil mixed with stearine as a leather preservative and softener. It is neatly put up in half-pint cans and each can is accompanied by a swab so that any one can readily and quickly apply it to their boots and shoes. As it retails for only 25 cents, it is not only hardy but cheap. Having been asked about it by several of our subscribers we sent for a can and have given it a careful examination. We have found nothing in it that can injure leather. If any greasy substance is to be applied to our footwear, we certainly should prefer this preparation. It seems to us that some application of a greasy nature is needed on footwear when exposure to wet has made it hard. Vacuum leather oil does not interfere with shoe polish applied afterwards. Vaseline is a positive injury to leather.

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If there is any of the hog in a man the bristles will soon begin to show when he travels.

Whenever the preacher takes a square aim at sin every hypocrite in the church begins to dodge.

There is joy in heaven when a sinner repents, but nothing said on a millionaire's monument has any effect.

If there had never been any slaves except those sold on the auction block, every land under the sun would now be free.

Had Job been a man who run his shoes down at the heel, and never had any opinion of his own, the devil wouldn't have bothered him.—*Ram's Horn.*

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NOURISHING**

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**CHILDREN**

FOR INVALIDS AND

**CONVALESCENTS,**

FOR DYSPEPTIC, DELICATE, INFIRM AND

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Physicians have found by personal observation that it is a reliable emulsion—probably Scott's Emulsion is prescribed more often than all other forms of cod liver oil combined.

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ABSOLUTELY PURE IN QUALITY.

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The seed of this Pepper was obtained from Central America, and by careful cultivation in Louisiana for many years has been so improved in strength, flavor and aroma as to have become a new variety of Red Pepper, superior to all others. The pulp is so handled as to retain all the flavor, strength, aroma and color of the ripe fruit, and to keep unimpaired in any climate. It excites the appetite, promotes digestion, and is pronounced by connoisseurs to be the finest condiment in the world. For medicinal purposes it recommends itself by its purity, strength and diffusible form.

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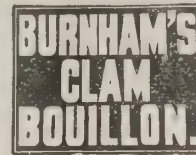
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Never Buy Clam Bouillon for the sick, except in Glass Bottles.

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sizes.

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CHOICE

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AND

### MUTTON

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## PATENTS

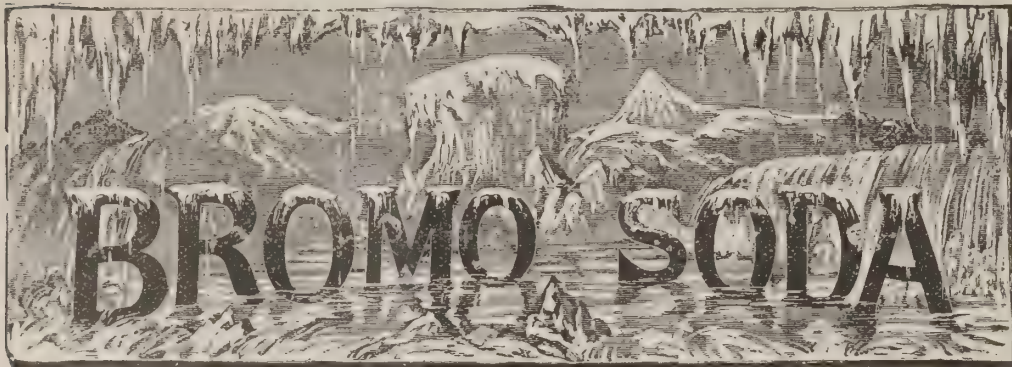
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## NERVOUS HEADACHE AND BRAIN FATIGUE

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It is claimed by some prominent specialists in nervous diseases that the Sodium Salt is more acceptable to the stomach than the Bromide Potassium. An almost certain relief is given by the administration of this Effervescing Salt. It is also used with advantage in INDIGESTION, DEPRESSION following alcoholic and other excesses, as well as NERVOUS HEADACHE. It affords speedy relief for MENTAL and PHYSICAL EXHAUSTION.

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How many persons know that Ripans Tabules, now so largely advertised and used, are simply the favorite prescription of their family doctor prepared in a scientific manner and a form convenient for handling, conveyance, preservation and use? In the great hospitals of the metropolitan cities, where the wealthy find better care than in their own luxurious homes, the ingredients of Ripans Tabules are administered to thousands of rich and poor alike with beneficial effect. They are the main dependence of the most eminent physicians in cases of derangement of the digestive organs, such as dyspepsia, constipation, biliousness and other ills connected with the stomach, liver and bowels. For some years one of the principal hospitals in New York city has used a formula, differing slightly from the common one, that has been found of unusual efficacy. Through the commendations of physicians its mission of healing has been so widely and rapidly extending that it finally seemed desirable to prepare the prescription in a convenient form, so as to make it available to the whole public at a moderate price, and to announce the fact through the recognised medium for securing publicity—advertisements in the columns of the newspapers of the land. This has been done, and now the time is not far distant when every family of intelligence will be as certain to possess a supply of Ripans Tabules as a clock or a cooking stove. They are already to be found on sale almost everywhere, and any druggist or dealer will supply them. A box, containing six vials, is sold for 75 cents, and a gross package, containing four boxes, for \$2. They will be sent by mail, post paid, to any address, on receipt of price, by the Ripans Chemical Company, No. 10 Spruce Street, New York.

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## PATENTS

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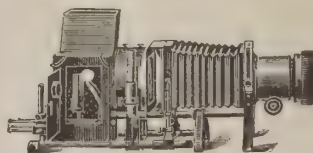
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

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PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

APRIL 15, 1893.

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### CONCILIATION VS. LAW.

There is no doubt too much resort is had to law. Many cases where a little patience, forbearance or reasoning on the one hand and truth, promptness and fairness on the other would arrange a controversy honorably, are rushed into lawsuits which, even if successful, are always expensive. Iowa and North Dakota have by law provided a remedy which seems to us well worthy of imitation. In one of our exchanges we find this described under the title of Courts of Conciliation.

North Dakota has a new law which provides for the establishment of courts of conciliation. At the election in town, city, or village of a justice of the peace, four commissioners of conciliation are also to be elected, and for the same term of office. The commissioners are to serve, two at a time, with the justice of the peace, in hearing pleadings and testimony in civil cases before the

action is brought into court in the usual manner. The hearings are to be conducted entirely without attorneys, and the statement of the principals in the action will be the chief testimony. After hearing both sides, the justice and commissioners are bound to try to bring about an understanding between the two parties on the basis of justice, and to remove the necessity of a more formal legal action. None of the proceedings in the court of conciliation are to be used as testimony in any action which may follow. Iowa is said to have found such an institution highly useful. The object is of course to decrease litigation and facilitate adjustments of misunderstandings growing out of small matters.

### LEGISLATIVE CHEMISTRY AND PHYSIOLOGY.

A new star of the first magnitude in the heavens of baking powder chemistry has arisen. The name by which this particular star is known to newspaper readers is Timothy Dry Dollar Sullivan. Mr. Sullivan did not graduate from any chemical or medical college, though having been in the liquor business he knows something of the changes effected by mixing ale and other compounds of that nature usually sold in Sixth Ward rumshops. Mr. Sullivan is unusually bright and smart and evidently enjoys posing as a model reformer. He is a member of the State Assembly in Albany and has been rather conspicuous there as an introducer of all kinds of proposed enactments, most of them impracticable, but as it is his way of keeping himself before the newspaper reporters, and everyone knows it, his actions have generally been looked upon as harmless and created merriment. His latest exploits in this direction had relation to baking powder. He has introduced two bills on the subject. The first of these bills was introduced about a month ago. It provides that all cans or packages of baking powder sold in New York State shall have a label upon which has been plainly printed a formula giving the ingredients used in the making of the powder.

As one of the largest of these companies, the Cleveland, has been publishing its full formula on its labels for years, the bill seemed to be aimed at those companies which because they used alum, ammonia or other harmful or undesirable ingredients in their powder dared not publish the fact on their labels. So far, Mr. Sullivan had been piloted in the right direction, and as this bill met with the approval of the Committee on Public Health and bid fair to pass he was ready to take another plunge into the unknown, but this time he slopped over. He had not been sufficiently coached on his chemistry or someone, probably with ulterior designs, had abused Mr. Sullivan's confidence and buncoed him, but we will let a morning paper tell the next installment of this really funny story.

But Assemblyman Sullivan did not end his battle with the introduction of the bill. He followed up his broadside with another one, equally public-spirited in purpose.

In the first place, he secured the unanimous consent of the Legislature to fire his second bomb, and then he introduced what he termed an "Act for the preservation of pub-

lic health by the suppression of the use of injurious chemicals in the preparation of food."

This bill only contained 195 words, but they were written so as to point that they had the effect of a three-volume tirade against the abuses they were designed to remedy.

Right at the beginning of the bill the story begins. It makes the statement that "whereas cream of tartar (bi-tartrate of potash), as used in combination with bi-carbonate of soda for aerating or leavening or preparing farinaceous food, does, by its chemical reaction, leave in such foods a drug known as Rochelle salts, it is enacted by the Senate and Assembly that the chemical known as cream of tartar shall not be offered or sold either in combination with bi-carbonate of soda or separately for the purpose of aerating, leavening or preparing farinaceous foods, or used by vendors of food products used for these purposes."

The bill remarks in conclusion that violation of the proposed law is legally known as misdemeanor, which is punishable with a fine not exceeding \$100, or by imprisonment not exceeding thirty days.

This bill was read once, and then was referred to the Committee on Public Health.

Mr. Sullivan told the accommodating reporter all about the bill and why he introduced it and the reporter gives it point by adding that "his reasons are worthy of the consideration of every housewife in the State."

"Cream of tartar, in combination with bi-carbonate of soda," he says, "is used to an immense extent in the preparation or compounding of baking powders. The manufacturers of these powders, in describing their wares, use such words as 'Absolutely Pure,' 'Absolutely the Best' and 'The Only Wholesome Leavening Agent.' It is also noticeable that they conceal from the public the true condition of food leavened by the use of their product."

Assemblyman Sullivan then points out that this system of advertising has been carried on for the past twenty-five years, until the public has come to believe that the combination has no wholesome substitute. He says the immense profits the baking powder companies secure from the people by reason of deceptive advertising enables them to enjoy incomes exceeding \$1,000,000 annually from a business not exceeding \$3,000,000 in gross amount.

"While it is not generally understood," he adds, "it is a law of chemistry that the reaction of cream of tartar and bi-carbonate of soda, by the addition of moisture and heat of the oven in producing the food, produces Rochelle salts in such breadstuffs to an alarming extent.

"I have in my possession fifteen ounces of Rochelle salts produced by the boiling process from sixteen ounces of this 'absolutely pure' combination of cream of tartar and bi-carbonate of soda. I took sixteen ounces of the combination, in proper proportions for neutralization, added sufficient water to liberate the carbonic acid gas, and by boiling produced the chemical reaction described, leaving, as I have said, fifteen ounces of Rochelle salts."

Assemblyman Sullivan says that chemists decided that the crystallized Rochelle salts of commerce carry 25 per cent of the water of association, or crystallization, and that in order to get the hard block of Rochelle salts to the same strength as the commercial article there must be added some 20 per cent to the original fifteen ounces, which would make the sum total of eighteen ounces of Rochelle salts of commercial strength, which, necessarily, would be left in the food where one pound of this combination was used as a leavening agent.

Not content with the chemical phase of the question, Assemblyman Sullivan looks at the physiological side. He points out that Rochelle salts is known to physicians as a double salt. It is composed of two-fifths of tartrate of sodium and three-fifths of tartrate of potassium. To administer from twenty to sixty grains of this drug in each biscuit or portion of warm bread at your breakfast, dinner or tea table is, the assemblyman thinks, liable to aggravate dyspepsia.

"Why, it is established," continues the speaker, "that Rochelle salts retard digestion more than any other salts. When a union of tartaric acid and potash enters the stomach as Rochelle salts, the tartaric acid becomes separated from the potash and soda.

"As the acid of the gastric juice is a maker of acid, it



unites with the potash and soda, forming chloride of potassium and chloride of sodium, thus robbing the gastric juice of its natural hydrochloric acid, and substituting free tartaric acid, which has no digestive properties. It is easy to see how digestion is retarded by the gastric juice thus being robbed of its valuable constituents."

He adds that kidney disease and other complaints must come from using the average baking powder, and for these reasons he has begun his fight against the baking powder millionaires.

It is needless to tell our readers that putting cream of tartar and bicarbonate of soda in water and boiling it, then examining the residue, is a very different thing from putting a teaspoonful of the two chemicals named in a batch of dough, and that the amount of Rochelle salts left in any quantity of bread anyone could eat, is so infinitesimal that it would not amount to a dose of salts in a year.

No matter, however, about Mr. Sullivan's bad chemistry and worse physiology, if this bill will be the means of calling public attention to the really dangerous practice of using alum or ammonia in baking powders we can overlook the error, and with all his faults we shall love him still. He is young yet. When he gets a little older and more experienced he will make fewer blunders. This time he has overshot the mark, but a few splinters ricocheting on the alum and ammonia powder makers may be blessings in disguise. Keep on, Timothy.

## MEDICAL.

### BICHLORIDE OF GOLD.

A SCIENTIFIC AND RATIONAL EXPOSE OF THIS SO-CALLED CURE FOR DRUNKENNESS

Dr. Chauncey F. Chapman, M. D., Ph. G., clinical instructor in medicine, College of Physicians and Surgeons of Chicago, member of Chicago Pathological Society, has rendered a valuable service to the community. Being determined to find out something definite about the various institutes, now so plentiful all over the country, wherein it is claimed drunkenness is being cured, he early last spring obtained a position as physician to a gold cure sanitarium at a distance from Chicago, and there carefully studied the "cure." Having all the necessary qualifications for an intelligent and scientific observation, and been employed in that sanitarium as the attending physician with ready access to the remedies and drugs, and the requisite skill to analyze, he certainly is a competent witness. He gives his experience in a paper read before the Chicago Pathological Society, and from it we give the following epitome:

First I will give you the formulary of the gold treatment, which is almost, if not quite, the same in all of these institutes, as follows:

No. 1. Tonic. Known in the institutes as the "dope."

R. Aurii et sodii chlorid.....gr. xii.  
Strychnia nitr.....gr. i.  
Atropine sulph.....gr. ¼.  
Ammonii muriat.....gr. vi.  
Aloin.....gr. i.  
Hydrastin.....gr. ii.  
Glycerini.....oz. i.  
Ext. fld. cinchon comp.....oz. iii.  
Ext. fld. coca, erythrox.....oz. i.  
Aque test.....oz. i.  
M. S.—1 drachm at 7, 9, 11 a. m.; at 1, 3, 5, 7, 9 p. m.

No. 2. The injection known in the institutes as the "shot."

R. Strychnia nit.....gr. 9 1-10.  
Aque destill. ad.....oz. 4.  
Potass. permangan. q. s. to color.

Misce. Sig.—Begin with gtt. 5, which equals gr. 1-40, and increase one drop each injection until the physiological effect is produced. Four hypodermic injections to be given daily, beginning at 8 a. m., then at 12 m., 4 p. m. and 8 p. m.

No. 3. Used with No. 2.

R. Aurii et sodii chlorid.....gr. 2½  
Aque destill.....ad oz. 1  
Misce. Sig.—gtt. 3, every four hours, in combination with the strychnine solution, for the first four days.

The last prescription is used only for the moral effect, which is produced in the following manner: Five drops of the strychnine solution are drawn into the syringe, and then three drops of the gold solution are drawn in and mixed. This produces a golden yellow color, to which attention is called, and the patient is farther assured as to the reality of the presence of the gold by the stain left on the skin after the hypodermic needle has been removed.

There is no necessity of entering into a discussion as regards the classification of inebriety. It is a disease, a pathological condition, and in the new psycho-neuropathology is placed in the group of disturbances of mental equilibrium known as "psychokinesia," or states of defective inhibition, and generally termed "dipsomania." We recognize drunkenness then as a disease, an extra physiological condition connected with that wondrous web of nerve cell and fiber, wherein take place those activities which underlie the conscious states we term mind.

Drunkenness then being a disease, we naturally look for a cure; being a disease of the nervous system, we tend our energies in that direction, using specific therapeutic reagents; and as a maintenance of the physiological equilibrium of the nervous system depends on a healthy condition of the gross economy, we give general constitutional treatment, improving the patient's general tone, stimulating and strengthening his nervous mechanism, and surrounding him with such moral influences as will tend to re-enforce his enfeebled volition. Of the drugs mentioned in the formula above quoted, I believe strychnine and atropine are almost specific. Strychnine is recognized as a most valuable neurotonic, and atropine seems to have a special aptitude in decreasing the appetite for alcohol. I have experimented on my own person with atropine alone, and after getting the system under the effects of this substance, with mouth, throat, and fauces dry, a drink of whiskey becomes absolutely unpleasant, nay even painful. The functions of the terminal gustatory bulbs seem to be perverted, but even following this, the secondary or systemic effects of the liquor are no longer agreeable.

In one individual, a mild whiskey drinker, I saw a well pronounced dislike for liquor induced by the use of atropine alone. I have to speak here of the fact that there are two classes of patients who come for treatment to these institutes. The first class comprises patients having a strong desire to be cured, who will follow implicitly and with the utmost confidence all directions given, believing firmly in the efficacy of the cure; the second class comprises a large number of patients who are brought or forced to come for treatment against their own will and inclination. These individuals are sceptical and unbelievers. They will follow directions given, but ridicule the idea that any treatment can produce in them a dislike for liquor. After the appetite for liquor in these cases has been practically decreased, they will, however, force themselves to swallow the now "fiery and nauseating" fluid in order to show the fallacy of the cure. In these people a positive disgust is in almost, if not in every instance, produced in the following manner: the patient is given a drink of whiskey, then the so-called bichloride of gold solution, really a solution of strychnine, is injected in his arm; at the same time and without his knowledge, he receives one-tenth grain of apomorphine. It takes but com-

paratively a short time for the emetic to produce its effects, more or less violent emesis is produced and the patient soon associating the intaking of the whiskey with the subsequent disagreeable and sickening vomiting, acquires a positive disgust for the liquor, and is not able to keep any on his stomach. Now he acknowledges the wonderful power of the hypothetical gold compound, and surrenders unconditionally. He is converted, and from an unbelieving scoffer, is changed into a disciple and supporter of the Prophet. These are cases the most widely advertised and that have done the most good for the "institute" folks. In this connection I would call your attention to the very large doses of strychnine employed. I have myself unhesitatingly exhibited hypodermatically one-eighth grain four times a day, in addition to the one-forty-eighth grain given every two hours, by the month until eight doses have been given in the day. This maximum dose is gradually but rapidly reached, beginning with one-fortieth grain hypodermatically, until the effects of the drug become manifest, when the dose is gradually decreased. In a number of cases I have seen the effects of the strychnine pushed to a remarkable degree, until the entire muscular system of the man would be in a continual state of tremor, until when on putting the heel rather suddenly and firmly on the ground, more or less opisthotonos would occur, and in certain cases I have seen this condition so well marked that antidotes would have to be exhibited, the drug habitually used being chloral hydrate. And here I would notice certain dangers and defects in the treatment. In these places the attending physicians are in ignorance of the composition of the medicinal solutions they are using, and all patients are treated exactly alike without regard to personal or individual idiosyncrasies. This is very wrong. A series of doses that would have but little or no effect on one patient would almost kill another, and then it will not do to depend entirely on the strychnine and atropine. Not secondary in any way is the moral treatment.

Let us call your attention for a moment to some details of this so-called "cure." In these "institutes" in the room in which the hypodermic injections are given, three bottles stand on the desk filled with different colored mixtures; one red, one white and one blue. In the "red" bottle is the nitrate of strychnine solution, the "white" bottle contains the atropine solution and in the "blue" bottle is the apomorphine mixture. In every case the "red" and "white" solutions are used, but where a patient is contumacious and refuses to surrender, the grand inquisitor applies the "torture," and in addition to the "red" and "white" liquids he exhibits the "blue." According to the jargon of the "graduates" and "under-graduates" such a patient is described as having received the "barber-pole." Such a sickening effect is produced by this "barber-pole," or red, white and blue treatment, that after he has received it once a patient will be seized with absolute terror when he sees the operator reaching for the "blue" bottle.

In conclusion I desire to state in the most emphatic manner that the "cure" as applied in this "institute" is a shameless, bare-faced, money-making scheme. Powerful drugs are administered by incompetent men who are absolutely ignorant of what materials are being used, or in what amounts these materials are being given. You are familiar with the long list of fatalities that have been reported following the treatment.

If it were properly and scientifically conducted good results might be obtained. It is needless to add that the treatment in these institutes has not even the merit of originality.



## HYPOPHOSPHITES, THEIR CHEMISTRY AND THERAPEUTICS.

When phosphorus is boiled with one of the fixed alkalies, or with a hydrate of an alkaline earth a hypophosphite is produced. Most of the hypophosphites are prepared by reaction from the hypophosphite of calcium. To prepare hypophosphite calcium, phosphorus and a little greater amount of slaked lime are boiled together in water until phosphoretted hydrogen ceases to be evolved. Filter; precipitate excess of lime by means of carbonic acid gas; concentrate by evaporation and crystallize by cooling. Spontaneous explosion sometimes accompanies the evaporation of the hypophosphites. The reaction is represented by the formula  $2P_4 + 6H_2O + 3Ca_2HO = 3(Ca_2P H_2O_3) + 2PH_3$ .

Calcic hypophosphite is soluble in 6 parts cold water and but little more soluble in hot water. All the hypophosphites are soluble in water. The hypophosphites of the alkali metals contain no water of crystallization, they are deliquescent and dissolve in alcohol.

When a solution of cupric sulphate is added to an excess of free hypophosphorous acid and warmed to about 130 deg. Fahr., an insoluble hydride of copper is precipitated. Boil the liquid and the precipitate is decomposed into hydrogen gas and metallic copper.

The hypophosphites are monobasic. The general formula for the hypophosphites is  $M'PH_2O_2$ .

### THERAPEUTICS OF THE HYPOPHOSPHITES.

Phosphorus is one of the most important constituents of the human body. All the bones, all the tissues, all the fluids contain more or less phosphorus in combination. Perhaps that part of the body which appropriates and makes use of phosphorus most actively is the nervous system. "So much thought, so much phosphorus," says the German scientist. The nervous system is fed by a phosphorized fat: lecithen.

The hypophosphite molecule exists in a loose state of combination. This is evidenced by the fact that it is easily explosive; also it reduces the salts of gold and silver. Such a molecule is, physiologically, easily disintegrated and appropriated. Not so easily split up and appropriated is the molecule of phosphoric acid or phosphorus itself.

The molecule being reduced in the blood or tissues, its component atoms are then in the nascent condition and are indued with extra activity. The nervous system gets the benefit of the nascent phosphorus and the red corpuscles of the blood obtain the vivifying effect of the nascent oxygen.

Mr. C., a gentleman in the last stage of consumption, came for cod liver oil. After a few days he said that he could not take cod liver oil and asked for Winchester's Hypophosphites. The hypophosphites did his consumption no good, but the effect in invigorating his nervous system in so short a time was very striking. We sent a bottle of the same hypophosphites, with a view to testing its efficacy, to a physician practicing along the Chickahominy, whose nervous system was terribly prostrated. In a fortnight he wrote that he could not put on paper the great benefit that he had obtained.

The attention of a prominent and very sensible physician was called to the remedy, not as a cure for consumption, but as a vivifier of the nervous system; after a few trials he adopted the remedy, and led the way in restoring the hypophosphites to their proper position, not as a cure for consumption, which Churchill proposed, but as a valuable article in the therapeutics of the nervous system. After using Winchester's Hypophosphites for some time he substituted and has since used a

simple aqueous solution of the combined salt hypophosphite lime and soda. Not hundreds but thousands have had occasion to thank him for the benefit derived by his sagacious and judicious prescription of this form of phosphorus.

Another physician of much distinction, a guest of the Medical Society of Virginia, said in the course of debate that he had tried hypophosphites and found them "all slosh." In private conversation afterwards it was suggested that he had been using the hypophosphites combined with syrup, iron, etc., that the hypophosphites were food for the nervous system and not medicine, and that the simple solution was the proper and best form for their exhibition. Since this advice was given this distinguished physician has used, as he said, "lots of them."

The hypophosphites are a food for the nervous system and not a medicine, and this is the therapeutics of the hypophosphites.—*Hugh Blair, in Transaction Va. Pharm. Assn.*

## SORE THROAT AND TONSILITIS.

[From the European Edition of the *Herald*.]

As all the *Herald* readers are aware, cases of sore throat and tonsillitis are very frequent in this weather, and although these complaints very rarely assume a serious form, still they cause a great deal of pain on account of the way in which they interfere with the process of swallowing. For these reasons I think it may be well to give a general outline of the best method by which an ordinary sore throat should be handled. In the place of the softening, calming or astringent gargles which it was customary to use only a short time ago, we have now recourse to antiseptic and disinfecting preparations, and this change is more than justified by our knowledge of the contagious nature of apparently simple forms of sore throat, by the existence of secondary infectious manifestations and by the possibility of bacillary infection through the erosion and inflammation of the mucous membrane of the pharynx.

Since, then, the course of an ordinary sore throat resembles that of an infectious complaint, there is every reason why its treatment should be similar to that of a disorder of this nature, and it will be well to abandon the use of honey and barley water, alum, the decoction of roseleaves, etc., and to go energetically to work to disinfect the diseased surface by a local antiseptic treatment, to counteract the infection by a general antiseptic treatment and to prevent all risk of contagion by hygienic and prophylactic measures.

### IT CHECKS INFLAMMATION.

The aim of local antiseptic treatment is to check the inflammation and destroy the vitality of the microbe, and at the same time to prevent the infectious agents from gaining access to the interior of the organism. This can be done by local applications to the pharynx by copious washings out of the mouth and by antiseptic gargles.

A number of preparations have been recommended for local application to the pharynx, but I have special confidence in the following mixture, which I prescribe every day as soon as the slightest difficulty in swallowing is experienced or as the throat seems in the slightest degree inflamed:—

Crystallized carbolic acid..... } aa  
Camphor..... } 0.50 centigram.  
Glycerine..... } 100 grm.

Dip some cotton held in a forceps in this preparation and paint the throat with it thoroughly.

Copious washings out of the mouth will help these local applications very materially. It is

best to make them with a solution of salol, by pouring into a litre of warm water the following alcoholic solution at the moment it is to be used:

Salol..... 1 grm  
Alcohol..... 50 grm

On account of its relatively harmless nature and low degree of solubility, salol is the best antiseptic in these cases, especially when the patient is a child. These irrigations leave behind them a fine layer of powdered salol on the mucous membrane of the mouth. Warm gargles made with 2 per cent solutions of boric acid or with salicylic acid one in three hundred can also be recommended.

### GENERAL ANTISEPTIC TREATMENT.

To counteract the general condition of infection we have recourse to intestinal antiseptics and we have also to consider the question of reducing the fever. At the same time it must not be forgotten that the most powerful means of putting the organism in a position to resist an invasion of microbes lies in the administration of the different forms of tonics, such as wine, the preparations of cinchona bark, kola or coffee, and in feeding the patient properly, and since the difficulty in swallowing is in these cases an obstacle in the way of attaining the latter object soft forms of food, such as milk, eggs and soups, will give the best results. In marked cases the difficulty can be overcome by applying to the painful surface the following preparation:—

Hydrochlorate of cocaine..... 0.10 centigram  
Glycerine..... 10 grm

Intestinal disinfection can be obtained by administering during the day one gramme of naphthol, divided into five powders. The feverish condition can be relieved by the following preparation:—

Sulphate of quinine..... 0.75 centigram  
Syrup of cinchona bark..... } aa 20 grm  
Syrup of codeine..... }  
Distilled water..... 100 grm

To be taken in two equal doses at an interval of three hours.

### HYGIENIC AND PROPHYLACTIC MEASURES.

The important points in this connection are to isolate the patient for about a week after the acute symptoms have ended, to ventilate the rooms in which the isolation has been carried out, to destroy the different articles that have been used for dressings, and, in cases of epidemic, to enforce thorough disinfection. The length of time during which a patient is to be kept from the family group or from school may be less than a week if the disinfection of the mouth, as recommended above, is carefully continued. It is a matter of public interest that all sore throats should be taken care of in this rational way and as soon as they manifest themselves.

## HEADACHE DUE TO TRAVEL ON RAILROAD TRAINS.

Dr. A. N. Blodgett (*Boston Med. and Surg. Journal*) in discussing the subject of ocular headaches, refers to a form of headache resulting from travel on railroad trains, which he thinks more frequent than generally supposed. Treatment by any of the methods usually employed is generally without benefit. An explanation was once given him by Mr. Fox, the consulting engineer entrusted with the construction of the railway tunnel beneath the river Mersey at Liverpool. In the journey between Liverpool and London Mr. Fox incidentally made the remark that he always sat with his back toward the engine. The English cars are built with transverse compartments so that the passenger is obliged to sit on a fixed seat, and therefore half the persons in a compartment



are forced to sit with the back toward the engine. Mr. Fox stated that he always took that position from the fact that his eyes were thereby rendered much more comfortable during the journey. He thought that was due to the avoidance of the repeated and sudden strain in the accommodation which is rendered necessary if one in looking at a series of rapidly approaching objects, as when traveling in a train. The effect was like a blow upon the eye. If the traveler be looking backward the object would be constantly receding and the strain of accommodation was continually letting up, and caused no discomfort whatever. That seemed to be a very ingenious and logical explanation why some people suffer from headache and vertigo in railroad traveling. Since that time he has directed car-sick travelers to ride backward, and has adopted this method himself, with the greatest comfort.

#### SYNONYMS OF POPULAR ANTIPYRETICS.

*Antipyrine*.—Phenyl-dimethyl-pyrazolon. Phenyl-iso-pyrazolon. Oxydimethyl-chinizin. Dimethyl-oxychinizin. Analgesin. Anodynin. Parodyn. Sedatin. Methozin. Pyracin. Pyrazolon. Phenazon.

*Antifebrin*.—Acetanilid. Phenylacetamide. Acetylphenylamine.

*Evalgin*.—Methyl-phenyl-acetamide. Methyl-acetanilid. Ortho-methyl-acetanilid. Phenylon. Methanilid. Methyl-antifebrin.

*Methacetin*.—Para-acet-anisidin. Acet-para-anisidin. Para-oxyethyl-acetanilid. Methoxy-anti-febrin.

*Phenacetin*.—Acet-phenetidin. Acetyl-phenetidin. Phenetidin. Phenedin. Oxyethanilid. Para-oxyethyl acetanilid. Oxyethyl-phenyl-acetamide. Para-acet-phenetidin. Acet-para-phenetidin. Para-amido-phenol.—*Pharm. Rundschau*.

#### SPIDER WEBS AND TETANUS.

Spider webs are supposed to possess marked hemostatic properties, and the peasants make a regular use of them in stopping hemorrhage. This result is usually obtained, but only by incurring the most serious risks, as it is well never to lose sight of the fact that on the one hand every opening of the tegument may have a fatal ending, and on the other that spiders' webs are generally covered with dust and loaded with a variety of morbid germs.

As an illustration of these facts we can cite the case recently reported of a young man wounded on the head with a stick. The blow was followed by an abundant hemorrhage, and in order to stop the flow of blood a quantity of spider webs was applied. An application that was unfortunately soon followed by symptoms of tetanus. The germs of tetanus, which are so abundant in manure and in the soil of our gardens, had settled on the spider webs and had been unconsciously inoculated in this way. The wounded man's hemorrhage was checked, but the tetanus carried him off.

#### PLEA FOR CLEANLINESS IN THE TREATMENT OF NASO-PHARYNGEAL CATARRH.

This is the title of a paper by Dr. Edward J. Bermingham, Surgeon-in-Chief to the New York Throat and Nose Infirmary, in which he lays stress upon the importance of cleaning the nasal cavity from one to three times daily after any existing stenosis has been relieved, and during the employment of topical medication by the surgeon.

If the parts are not cleansed the medication does not reach the diseased mucous membrane, and treatment will be disappointing. Proper cleansing with an alkaline, antiseptic, non-irritating, and deodorizing solution will alone cure 50 per cent of cases of simple hypertrophic catarrh and will benefit atrophic cases. The writer gives preference to a 25 per cent solution of glycothymoline as a cleansing fluid. He condemns the old-time douche and all those where any force is used, and advises that the fluid be introduced through a small glass douche devised by him, which allows the fluid to gravitate slowly to the naso-pharynx. Here it should be kept in contact with the parts for a minute or two before the nose and throat are cleared.—*New York Medical Journal*.

#### MIRACLE CURE EXPLODED.

Archbishop Ireland recently dealt in a novel but most sensible way with a so-called miracle cure which was being exploited at Canton, Minn. The report was that a miraculous image of the Virgin and Child had appeared upon a pane of glass in the window of a church at Canton, and that infirm persons were making pilgrimages to the church. Thereupon the Archbishop gave orders that the matter should be investigated by a scientific expert whom he appointed. When the result of the investigation was made known to the Archbishop, a few days ago, he took the action in the case which is required by the laws of the church, and the "miracle window" will not hereafter be seen. The expert found that a fraud had been perpetrated by a photographer of the place, who had subjected the pane of glass to a kind of treatment under which, by means of a certain apparatus, the images were made to appear upon it. The expert also found that though many infirm pilgrims had been drawn to the place by reports that miraculous cures were performed there, not one of them had been relieved of his infirmity. He furthermore ascertained that a number of conscienceless men in Canton were allied with the photographer, and had mercenary reasons for trying to keep up the delusion.—*N. Y. Medical Record*.

**SUBSTITUTE FOR MOTHER'S MILK.**—The following is claimed to be almost exactly identical with normal woman's milk in composition:

Cow's milk.	.....1 pint.
Water ..	..... $\frac{1}{2}$ "
Cream.....	.....5 tablespoonfuls.
Milk sugar.	.....3 "

#### HOUSEHOLD.

##### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

##### JELLIED CHICKEN.

Boil two chickens, take off skin and chop fine; take a pint of the liquid in which the chickens were boiled, put on fire and add a third of a box of Coxe's gelatine and stir until dissolved; then pour over the chicken, which must be put into a dish with two hard-boiled eggs cut in half put in the center. Season the chicken, while cooking, with salt and pepper to taste and a very small pinch of mace. Turn out of dish when cold. Use only enough water to boil the chickens.

##### FRIED CHICKEN WITH CREAM.

Have young, tender chickens cut up; salt, pep-

per, and flour them. Fry a delicate brown. Remove from fire. Strain grease to remove burnt pieces, return to fire, add one cup of cream, and let it stew awhile. If not thick enough add a little flour. Pour over the chicken.

##### APPLE FRITTERS.

Make a batter with one cup of sweet milk, one teaspoonful sugar, two eggs, two cups flour, one teaspoonful baking powder. Chop nine apples, mix in batter, and fry in hot lard. Serve with any kind of sauce.

##### POP-OVERS.

One pint sifted flour, three eggs, one pint milk, a pinch of salt.

##### CHEESE STRAWS.

Three tablespoonfuls flour, three of grated cheese, one of melted butter, one of milk, half teaspoonful salt, a quarter of pepper, an eighth of a nutmeg, the yolk of an egg. Roll very thin and cut in strips a quarter of an inch wide. Bake in a slow oven fifteen minutes.

##### PUDDING SAUCE.

Rub half cup of butter and half cup sugar thoroughly together, then add a pinch of salt, one egg well beaten, a pint of boiling water, and one teaspoonful cornstarch. Cook as soft custard.

#### SOAP AND HARD WATER.

The cause of streaking of clothes and the effect of hard water on soap in washing are discussed by the *National Laundry Journal*. The article starts out by admitting that if goods are properly washed there will be no gray streaks and then attempts to find the proper remedy by ascertaining what are some of the improper methods of washing in order to suggest a remedy.

Nearly all water available for laundry uses contains more or less lime, and as soon as the soap is applied there is an immediate antagonism between the soap and lime. Enough soap has been put into the machine to make a good suds. It is watched for a few minutes and to all appearances no more soap is required. In the meantime there is going on a struggle for supremacy between the lime and the soap, with the chances of the soap becoming the victor, but it suddenly begins to lose strength, and it grows weaker every second, because as soon as the goods in the machine become thoroughly saturated the grease and dirt in them begins to neutralize the soap, and between two powerful adversaries poor soap is vanquished, and when the machine is looked into it is found that there are no suds where suds ought to be. Immediately soap is poured in until a splendid suds forms, but in these few seconds an evil has been done that no amount of soap will ever remedy, as chemistry has gone to work, and instead of cleaning the goods, the laundryman has been manufacturing insoluble lime soap, and when the batch is finished it is found that there are in the pieces yellow edges, steel gray or black specks, which will remain as long as the goods last. When the two elements—lime and water—are very nearly equal, the lime slightly exceeding the soap, you get a perfectly saponified soap, but when the lime is greatly in excess, the saponification is not perfect. Take a case where condensed water cold and hard is used in the first suds, and in the second. It would look as if lime had nothing to do with the producing of gray streaks. After the goods are let out of the machine from the first suds, the goods retain quite a large quantity of soap, and when hard rinse water is let into the machine there is a large quantity of lime, the soap remaining in the goods is sufficient to precipitate it, or even bring about



perfect saponification, which produces lime soap. But the soap has only strength enough to partially saponify the lime—the result is specks and streaks.

"Summing up it may be said that specks and streaks are caused by dirt becoming 'set' in the goods, and not having been removed in the warm water, the cold plunge fixes it, and making further manipulation to remove it a very difficult operation. Practice shows that the liability of streaks and specks is greater in new than in old work. In the former the meshes are larger and perfectly free; hence dirt sinks down to one of the lower layers and unless promptly removed at that particular time will remain a blot that subsequent effort will not remove.

"Having determined the cause the remedy follows. Remove all dirt in the first sudsing by soft water, good soap, and follow with careful rinsing."

The *Soap Journal*, commenting on this, says: Several of the foregoing sentences are quite unintelligible, and the writer appears to get mixed between the free alkaline strength and the actual neutral soap. In what respect lime and water can be "nearly equal," how a more or less perfect saponification of the soap in the wash boiler can be effected, and what is meant by "condensed water, cold and hard," these are mysteries which can only be partially explained by taking for granted what is said at the beginning. Laundrymen undoubtedly require further instructions as to the effect of hard water on soap.

#### DINING IN ITS SOCIAL AND SCIENTIFIC ASPECTS.

The *Lancet*, in commenting on an article on "The Art of Dining," in the August number of the *Nineteenth Century*, moralizes on the effect of food on character.

The article contains many hints not only interesting from a social point of view, but also important dietetically. The proper choice, preparation, and serving of food is not a matter to be handed over to epicureans or gluttons, or to be regarded as merely interesting, from the æsthetic and gastronomic points of view. It is, in reality, a question of the very first magnitude, touching the public health in one direction, the public purse in another, and not indirectly affecting the well-being and happiness of every class and every individual. National food customs on the one hand reflect, and on the other to a material degree influence national character. They are the growth of ages, and are largely affected by questions of race and climate; hence sudden and thoroughgoing reforms are not to be expected, and are hardly desirable. Still, it is wholesome to have our failings in this regard indicated, and to have lines of amendment and development pointed out.

The burden of the article treats mainly of the formal or elaborate dinner, and finds much to condemn in the profuse and ostentatious style now widely prevailing. The author is for simplicity, and lays down, as sufficient for all purposes, the following menu: A soup, a piece of fish, a relevé, an entrée, a roast bird, an entremet de légume, a sweet entremet, a savory morsel and dessert. The important point in this arrangement is the place of the relevé after the fish and before the entrée.

The current craze for making things look pretty is deplored. "We have become the victims of a decorative mania. The use of fancy colors without consideration of their congruity, for the sake of prettiness, to tint the maskings used in savory

cooking, is surely preposterous; for how in the natural order of things can a fillet of fish be green, or a cutlet of chicken pink? Who can see, without pity, in the window of some fashionable culinary professor a noble salmon, that never did any one an intentional injury, put in pillory and exhibited as a peep-show to the passer-by, with his back bristling with prawns like the 'fretful porcupine,' crawfish disporting themselves about him, his sides outraged by a gruesome tattooing of truffles and divers devices in patterns like a Maori masher, and lastly, to complete the atrocity, an impalement of hideous 'hatchet' skewers? Surely this is as bad as the desecration of the 'dead Hector' with the garish bedizenment of a circus clown."

Perhaps the most revolutionary point in the article in question is the suggestion that the modern dinner should be brought to an end within an hour. This would, indeed, be a relief, but it seems too much to hope for. For the purpose of expediting the progress of the dinner, the writer suggests that the various component parts of the meal should be served ready-helped from the buffet. He also recommends the abolition of the service of cheese. There are many other points in the article which invite attention.

Truly, "we are what we eat," and it behooves the doctor exposed to the danger of contagion, and with broken rest, to so eat as to fortify himself for his arduous labor.

When exposed, the physician should take some concentrated, easily assimilable nutrient.

A hot bouillon may be instantaneously prepared by dissolving in a cup of hot water a teaspoonful of some good beef extract.—*Medical Age*.

#### CHINESE HINTS TO AMERICAN COOKS.

FOR THE CHINESE CULINARY CHEMIST TEACHES A LESSON TO THE HEADS OF OUR HOUSEHOLDS.

[By W. E. S. Fales, N. S., Vice Consul, at Amoy, China.]

When an American becomes troubled with dyspepsia or indigestion, he flies to his doctor or druggist and receives something in which pepsin plays an important part. The Celestial takes a different tack. He uses the same remedies, but takes them in a form of wholesome and palatable food and not as disagreeable medicines. The American buys expensive bottles of pepsin, peptonoids, etc. They give relief, of course, but despite the brilliant chemistry which produces them they are not savory nor even attractive. The Oriental introduces the same elements into his stews, soups, ragouts and fricassees. In that form, as nature designed them, they are delicious in the extreme.

Pepsin, as all our readers know, is derived from the stomachs of our food animals; inglevine or anglevine is derived from the gizzards of chickens, ducks and other poultry. The Chinese cook in making all entrees employs the pepsiniferous portions of the stomach of the sheep, ox and pig and the gizzard of all poultry. The national dish of *Chow-Chop-Sue*, or the more fashionable (and expensive) *Chow-Gai-Bien*, *Fu-Qua-Gai* and *Chow-Gai-Men* contain invariably at least 10 per cent of chicken gizzard and 15 per cent of the pepsiniferous portions of the stomachs of the food animals.

American cooks, on the other hand, usually throw away the gizzard and never employ the "belly," so called, of the food animals. The chef of a leading New York hotel lately said: "We throw away the gizzards merely because our customers won't have them. Some we utilize in soups and sauces but they are unpopular and we don't like to use them."

It would be well for the head of every house-

hold to bear in mind that the best part of every bird is the gizzard and of every ox and sheep, the stomach. Until this fact is realized and acted upon, dyspepsia will continue its reign in our land.

To cook a gizzard properly, don't boil or bake it. Wash and clean it, cut it into thin slices and then toast or stew the slices. Stewed with lemon juice or in plain water it becomes soft and delicate. "Ox-belly" can be cooked directly in all soups and stews and improves them unspeakably. When cooked alone, stew it with lemon-juice, lime-juice, or any fruit. The dish is palatable and will meet approval from the weakest stomach.

Another Chinese institution that might be introduced with profit to our tables is the sauce called *Moi-Ta-Ung*. It is made from tamarinds and corresponds to the well-known aperients, Tamar Indian and Tropic Fruit Laxative. Its preparation is very simple. Stew a pound of tamarinds in a quart of water with an ounce of cherry pits or peach stones for an hour. Rub through a sieve or colander and boil to a paste or jam. The resulting product will keep for months, is wholesome and hygienic, and goes well with nearly all meats.

A practice with first-class Mongolian cooks of adding lime-water to many dishes instead of aqua pura is also worthy of imitation. As applied to milk it would benefit thousands of children and save the lives of hundreds who annually perish in the summer months. Milk is apt to curdle in the stomachs of the young, the old and the infirm. A teaspoonful of lime-water prevents this almost absolutely and cannot be detected by the most sensitive palate.

#### CARE OF SPONGES

THEY MUST BE KEPT DRY AND SWEET.

There are few things that are so carelessly handled and which give so little satisfaction, for this reason, as a bathing sponge. A large sponge is always a somewhat expensive item, and when it becomes odorous, as it sometimes does after a little use, one hesitates to throw it away at once, expecting to restore it. This is a very difficult matter to accomplish; repeated scaldings will often fail to make a sponge sweet and soft, as it was originally. The best way to do is to take care of it at first. If the sponge is freed from soapsuds and hung where it will get dry each time after it is used, it will not become sour. In order to do this, wash the soap out with warm water, after using it, and rinse it in cold water. Squeeze it as dry as you can with the hands, but do not wring it, as that would break the fibres. It is a good thing to dry sponges in summer in the bright sunshine. In winter they must be dried by artificial heat, and for this reason special care must be taken to rinse them clean after using them. It is a great mistake to shut a sponge up in a close box, even though it may be one of solid silver. A sponge shut up in this way with the least dampness is sure to acquire an impure odor in time. The best place to keep a sponge is on a hanging earthen tray, or in an open basket of wire, near the bathtub, where it can dry and is always convenient. There is a great difference in the qualities of sponges. A good bathing sponge has rather coarse pores, but is soft and strong in texture. The most expensive sponges, however, are the tiny ones, which have the very finest holes and a silken texture. They are used for washing little children and by surgeons. It is always better to purchase a sponge of a wholesale dealer, who handles them from the original package as they come to market, or from a trust.



worthy druggist. The sponges that are sold by sidewalk venders and are very white and clean-looking are said to be often the refuse sponges thrown away by hospitals and afterward collected, cleaned and bleached by acid by the Italians, who usually vend them. A sponge that has not been bleached is a brownish yellow or a light yellow in color.

#### BACILLI IN BUTTER.

It is generally known that milk affords a dangerous vehicle for the dissemination of disease, but that this undesirable property is shared by butter is information at once of a novel and startling kind. Yet, according to recent researches, there were contained in one gramme of butter (as much as would go on the point of a knife) 2,465,555 micro-organisms from the centre of the pat and as many as 47,250,000 on the outside. In fact, in some cases it is tolerably certain, it is stated, that the number of organisms swallowed with a moderately large piece of bread and butter may exceed that of the whole population of Europe. Butter kept in a refrigerator showed a marked reduction in the number of bacteria—a result which is also obtained by the addition of common salt. Samples of artificial butter, curiously enough, were invariably found to be much poorer in bacteria than ordinary butter; thus, while the smallest number found in one gramme was 747,059, in real butter considerably over two million microbes was the minimum. Two varieties of bacilli have been isolated and described, and inasmuch as they were found to be constantly present in butter they were probably specific micro-organisms of a non-pathogenic character. But, at any rate, it seems clear that butter as well as milk is capable of carrying and fostering organisms, and on this account it behooves us, under certain circumstances, to melt our butter to boiling point in addition to boiling the milk.—*Lancet*.

#### PATENT FUEL STOVES.

The *Popular Science News* answers the question about the safe use of gas stoves, etc., as follows. It is clear, correct and comprehensive:

Can a gas stove be safely used for heating a room without connecting it with a chimney? and can the various "patent fuels" so widely advertised be used in the same way?

*Answer*.—Combustion is usually a process of oxidation, and for all practical purposes may be considered as an oxidation of hydrogen or carbon. The products of such a combustion will be aqueous vapor (steam) and carbonic dioxid, usually mixed with a small amount of carbonic oxid and other harmful compounds. Whether coal, wood, oil, gas, or "patent fuel" is burned the final result is nearly the same, and no fire of any sort should be allowed in an occupied room without carrying off the products of combustion into the outside air by a chimney or otherwise. As showing the harmful nature of carbonic dioxid, we may state that air containing over one part in a thousand of this gas is unfit to breathe; when the proportion rises to one twelfth it causes suffocation, and a candle is extinguished by a mixture of seven parts of air and one of carbonic dioxid.

#### TABLE NAPKINS.

Curiously enough, that article now considered almost indispensable, the table napkin, was first used only by children and was only adopted by elder members of the family about the middle of

the fifteenth century. In etiquette books of an earlier date than this, among other sage pieces of advice for children are instructions about wiping their fingers and lips with their napkins.

It seems that the tablecloth was long enough to reach the floor and served the grown people in place of napkins. When they did begin to use napkins they placed them first on the shoulder, then on the left arm and finally tied them about the neck.—*Youth's Companion*.

FOR TIGHT SHOES.—There is no reason why any man should torture himself breaking in a new pair of shoes which "draw" his feet almost as severely as would a plaster made of the strongest mustard. The trouble arises from the natural heat of the leather, which, in these days of rapid tanning, is much greater than when the process was one running over several months or a year. All the pain and trouble can be prevented by pouring a little water into the shoes and allowing this to draw out the heat. This is practically what the perspiration of the feet does, but it prevents the pain which is felt while the work is being done in the ordinary way. Professional walkers pour whiskey in their shoes, but for ordinary purposes water suffices, and if allowed to evaporate and dry it does not have the same distressing effect on the stockings.

A GOOD PRESCRIPTION FOR THE COMPLEXION.—Wash your own dishes, polish your own brass and silver, sweep and dust, and make up your own bed, water and tend your own flowers,—in fact, keep yourself busy and in good spirits, and take a brisk walk or ride in the afternoon each day in pretty weather; eat eggs, milk, rare steaks, wild meats, and other digestible food, leaving off everything fried, rich in condiments and fats. Sleep seven or eight hours in the twenty-four, in a well ventilated room, in which the sun has been permitted to shine two hours each day. Let the light fall on you; you are like a plant, you need it; and in less than a year, your complexion will be better than any lotion or pomade in the world could make it.

MORLEY'S POLISHING PASTE.—A formula for this article is given in the *Scientific American*. It is made by calcining flint and grating the calcined material to a very fine powder, which is then mixed with some fat, oil, or some like material to make a suitable paste. It is applied with a little moisture, and is put up to be sold in tins or boxes.

VARNISH FOR FLOORS.—A quick-drying varnish for floors, which gives a high gloss, can be obtained by melting 1 part of D. C. shellac and 5 parts of pale rosin. Draw your fire and add 6 parts of 90 per cent neutral spirits which have been slightly warmed, and  $\frac{1}{10}$  part camphor. Every pound of this varnish will cover 35 square feet of previously primed flooring.—*Der Colorist*.

A new liquid glue, always ready for use, and which will keep any length of time, is made by dissolving 60 parts of borax in 100 parts of water. Add to the solution when boiling 4 parts of 90 per cent calcined potash, and add to this mixture while boiling 1,460 parts of animal glue liquor, showing a density of 12 deg. B.

PRINCIPAL AND INTEREST.—Miss Highminder—I do not love you, Mr. Brokerage, but I confess I take an interest in you.

Mr. Brokerage (with enthusiasm)—Oh, darling, can't you take the principal, too?

## ADULTERATION.

### EXPERIENCES OF A PUBLIC ANALYST.

The *Chemist and Druggist* gives a resumé of a paper recently read by Mr. A. H. Allen relating his experiences during twenty years as a public analyst: In the opening part of his lecture, Mr. Allen made reference to the various acts which had been passed for dealing with the adulteration of food and drugs, and expressed the hope that the last act would be further amended in the present session of Parliament. Up to a comparatively recent period an analysis was based on the examination of one or of very few samples, and extensive variations in the natural composition of food and drugs were wholly unknown. No books existed in which trustworthy information was to be found, and the methods adopted were easily performed. No society or association existed for the exchange of information and discussion of new processes, which was so important between colleagues. He urged that the fines at present inflicted were wholly inadequate where adulteration was distinctly proved. The chance of detection was so slight and the penalties so small that it paid adulterators handsomely to take their chance of being detected. Taking milk as an example, he said that a dairyman's turn to be visited only came once in two or three years, and if he sold twenty gallons a day, and adulterated his milk 10 per cent, he made £113 before his turn came to be visited. Then he would get off with a 5s. fine, accompanied by an expression of regret from the Bench that they were obliged to convict. The leniency was largely due to the action of Somerset House, who made the mistake of assuming the position of advocates for the defence instead of impartial advisers of the Court. He would have every shopkeeper visited at least once in six months, and he urged that the act should be extended to disinfectants, many of which were great rubbish. Carbolic disinfecting powder and carbolic soap often contained a mere fraction of the proportion of the active ingredients to which they were supposed to owe their value.

#### IMPURE OLIVE OIL.

##### CALIFORNIA'S ACTION TO PREVENT IT.

One of the most important pieces of pending legislation, to olive growers at least, is the bill to prevent adulteration and the fraudulent imposition of an impure article on the public as genuine olive oil.

It is entitled "An Act to amend the Act in relation to the sale of olive oil," and it is on second reading in both Houses. It declares that every article, substance or compound other than that extracted solely from the olive tree, made in semblance of olive oil, and any person who adulterates or manufactures imitation olive oil (under heavy penalty) must place a label on the vessel or bottle containing it, these words, "imitation olive oil." It makes it criminal for any person to knowingly ship any such oils without the proper stamps on them. It also makes it criminal for anyone to offer such spurious oils for sale without the statement of their character on the bottle, can or vessel containing them. If this shall become a law it will put a stop to adulteration.

There can be no doubt but that olive growing is to be an industry of great future importance in this State; first, for the oil which is perhaps the most important consideration from a commercial standpoint, and secondly for the olives themselves in pickle now sold as a relish and much sought by epicures. The first white settlers in California found that the olive grower had preceded them.



The soil and climate are naturally adapted to the fruit. Our pioneer olive oil manufacturers have had wonderful success in their attempt to engraft a new branch on our flourishing manufactures. The olive oil produced in California bears a high reputation. It is sought in markets where imported oils are less popular.

But there are threatening, yes dangerous counterfeits that may deal a fatal blow to the young industry if the growth of trade in them is not checked. It is to meet this situation that the bill against adulterations and imitations was introduced in our Legislature. If the imitations and inferior oils are sold broadcast as the genuine California olive oil, it is plain that not many years will pass before California oil will have as mean a reputation as any of the nasty mixtures and adulterations that now find a market under bogus foreign or California labels. A special effort should be made by our horticulturists to secure the enactment of this law calculated to protect and benefit so important an industry, for it is almost an established certainty, that unless some protective legislation is enacted, it will not be many years before all hope of increasing the sale of California olive oil except by very slow degrees must be abandoned forever.

#### CITRATED KALI.

[C. B. Fleet in Transactions Va. Pharm. Assn.]

There is used in some of our cities, under the names of citrated kali or lemon kali, a sweetened and flavored effervescent powder, which has been found very useful in allaying thirst in fevers. It is well known to our older physicians and pharmacists, but is comparatively unknown to the younger members of these professions. The name naturally suggests the use of a potassium salt as one of its ingredients, but having some doubts as to this point and wishing to ascertain if the preparation was identical with citrate potassium, I made a chemical examination of two specimens of English manufacture. As I expected, I found there was no potassium in either sample. In one I found the acidulous part to be citric and in the other tartaric acid. Desiring to be better informed as to its composition and why the word "kali" was used in its name, I wrote to Prof. John Attfield of London, inquiring if his attention had been called to the preparation, whether he had ever analyzed it, what was the force of the name "kali" as used here and any information he could give. To this letter I received the following very courteous reply:

17 BLOOMSBURY SQUARE, LONDON, W. C., Dec. 14, 1891.

Mr. C. B. Fleet, Lynchburg, Va., U. S. A.

MY DEAR SIR: If you look in the index of the Manual of Chemistry you are good enough to praise so highly you will see that "kal" is simply Arabic for ashes. And it is scarcely more than 150 years ago that sod-ashes were distinguished as being chemically different from pot-ashes. No doubt the ashes of sods, especially of seaside plants, were afterwards found to be identical with certain mineral productions, and hence came to be regarded as mineral alkali, in contradistinction to the ashes got from inland plants and trees after being worked in pots with water, and which came to be regarded as the vegetable alkali par excellence. Hence, small wonder that the metal from sod-ash was christened sod-ium, and that from pot-ash, pot-assium; or that the latter got to be called, also, kalium. Having been termed kalium, we, reasonably enough, nowadays associate "kali" with potassium compounds rather than with sodium compounds, both in medicine and in

pharmacy, though in manufactures alkali works commonly mean "soda" factories.

You will see, therefore, that makers of "lemon and kali" are not wrong in so terming a sweetened and lemon-flavored mixture of carbonate of sodium and acid. Of course, if they speak of "citrated kali," the acid present should be citric acid.

Commonly these "kali" compounds are mixtures of bicarbonate of sodium, tartaric acid, sugar, and sometimes a little lemon or other flavoring, as you state.

Yours faithfully,

JOHN ATTFIELD.

#### COFFEE—EXTRACTS OR ESSENCE.

The idea of presenting coffee in a liquid form, concentrated, was conceived over fifty years ago by a London firm and now there are a great number of makers of such extracts.

The convenience of the liquid coffee, its freedom from "grounds," economy of use, and quick transformation by the simple addition of boiling water into a hot drinkable beverage, have secured for it a wide consumption. Of late years coffee essences have been largely used by hotels, restaurants, confectioners and druggists and not only for dispensing in cups, but as a flavoring adjunct for ices, etc., in the kitchen. As the respective makers, each and all, lay claims to the production of the best article, there is a perpetual war of the coffee essences in progress, and hoping to set the question of comparative excellence at rest, the *London Caterer* a few months ago invited the better known producers to submit samples for examination by competent analysts. The only report that has come to hand is a guarded condemnation. From what can be gathered that the caffeine and fragrant principles developed in roasting the coffee bean are extremely volatile, and the heat necessary to prepare the essence in a great measure dissipates the valuable alkaloid (caffeine), while also "killing" the delicate aromatic ethers. But without further preface we reprint the communication embodying Professor Wanklyn's and Dr. Gilbert Sutherland's researches into the coffee essence question:—

SIR—We have made a thorough and exhaustive inquiry into the merits and demerits of the various "Coffee Extracts" submitted to us; and although we find nothing deleterious in any of them, we must decline to recommend their general adoption, since it is calculated to discount the use, and provision, of genuine coffee, which so admirably fulfils its mission as a delicious, fragrant and exquisite beverage, containing medicinal and dietetic virtues which are sought, and sought for in vain, in the best of the so-called Coffee Extracts. We have not arrived at this decision without careful and serious consideration, and this must be our apology for apparent delay in carrying out your instructions.

We remain, Sir,

Yours faithfully,

WANKLYN & SUTHERLAND.

99 Cannon street, London, Feb. 20.

#### SOME FOODS.

New York's annual show of pure foods has just closed. The importance of the subject matter invites attention to some late developments bearing upon it. The old obvious adulterations are comparatively little practiced. Though alleged coffee is still adulterated, it is seldom, perhaps, mixed with mahogany chips. Sugar may no longer be mixed with sand, or tea faced with Prussian blue. On the other hand, there are

adulterations, as of olive oil with cottonseed oil, that are much more difficult to detect. Of these new adulterations, few attack the public health.

At the same time, food really deleterious has never perhaps been so abundant. The first place must be given to milk from tuberculous cows. France has just been startled by the discovery that one-fourth of all the milch cows supplying Paris are infected. Recent discoveries of the same sort in Germany, Britain, Pennsylvania, New Jersey and Canada have heretofore been reported. The mixture of animal fats with butter is among the more difficult of modern sophistications to detect. Evidence like that above cited begins to indicate that the oleos may be the safer food of the two. Milk can be made safe by twenty minutes' boiling, which suffices to destroy the infection of consumption, and does not impair its nutritive value, even for infants.

London has lately discovered and exposed sophisticated condensed milk from which the cream had been removed. Aiming to evade the penalties of the adulteration act, the manufacturers had printed on the labels in small type such expressions as "skimmed," "prepared with some pure whole cow's milk, some skimmed milk and best cane sugar," or still others equivalent. On the same labels, however, were printed recommendations of the article for various purposes, "but above all for children, being the most harmless children's food," etc. On a prosecution, the stuff was found deficient in natural fat to the extent of 50 per cent to 80 per cent. The medical testimony was to the effect that such food would be highly injurious to children, who would pine, become emaciated and probably die. Convictions were secured and smart fines imposed. A similar fraud was detected in stuff labelled "Evaporated Cream."

In the most recent French work on milk the question of the transmission of scarlet fever, tubercle and other communicable maladies by milk is fairly discussed, and the evidence marshalled. The action of different microbes on milk is instructively displayed. Experimental pathology and clinical observation have done their work, and allow no room for doubt as to the transmissibility of tuberculosis by affected meat and milk from cows to man. Thoroughly aroused at last the London Common Council is about applying to Parliament for powers to inspect all animals supplying milk to the metropolis and slaughter such as are found infected. They apply, in short, for the same powers that Edinburgh and Glasgow already enjoy, and which are rapidly stamping out the infection within their radius of influence.

No recent demonstration has been more important than that which follows, and is too significant to warrant condensing:

"Helm has shown that cholera bacilli purposely rubbed into butter could be demonstrated after thirty-two days, while typhoid bacilli similarly introduced were found after three weeks, and tubercle bacilli after the lapse of a month, although Gasperini discovered the latter in butter even after 120 days. Quite recently Lafar has published a paper, 'Bacteriologische Studien über Butter,' in the *Archiv für Hygiene*, in which he has recorded his investigations on the micro-organisms found in Munich butter. These experiments are instructive as exhibiting the fitness of butter to support a large number of bacteria, and thus furnish an interesting supplement to what is already known concerning the longevity of pathogenic microbes in this medium. The samples examined were prepared from fresh cream and were investigated as soon as possible after the butter was made. It was found that the number of microbes differed according as the portion for experiment was taken from the outside or from the interior of the piece of butter. Thus in one instance while one gram from the centre of the pat contained 2,465,555, on the outside in the same quantity as many as 47,250,000 micro-organisms were found. Taking the average of a number of examinations it was estimated that the interior of a lump of butter possessed from 10,000,-



600 to 20,000,000 of bacteria in a single gram. Lafar is inclined to regard this as an under rather than an overstatement of the number, inasmuch as there are always probably present a certain proportion of microbes which will not develop at the ordinary temperature, or on the gelatine-peptone medium usually employed. He graphically puts it that, in some cases it is conceivable that the number of organisms swallowed with a moderately-size slice of bread and butter may exceed that of the whole population of Europe."

This demonstration is conclusive of the fatuity of legislation against the oleos in favor of a substance identical with them in elements and as a food, yet liable to be charged with the infection of deadly disease from which the prohibited fats must needs be free through the very process of their production. The deaths from tubercular disease in this town exceed those from all the other infectious diseases combined, diphtheria, measles, scarlet fever, small-pox, typhoid and whooping cough. Yet the statute books display for the edification of posterity, not merely a blank where society's power of self-preservation might assert itself, but enactments affirmatively maintaining and propagating the deadliest disease known to our generation.

#### OPPOSITE RESULTS.

Alcohol is one of those strange substances which has the power of producing apparently opposite results. In small quantities it stimulates the action of the heart, in large it depresses it; in small quantities it increases the secretion of gastric juice, in large it destroys the pepsin and arrests digestion; in small quantities it has an exhilarating effect on the nervous system, in large it is narcotic.—*Hotel Mail.*

#### METHYLATED SPIRITS AS A BEVERAGE.

In reference to the use of methylated spirits, known also as wood alcohol, as a means of pro-

ducing cheap inebriation, we notice that Dr. Bell has induced the Board of Trade to issue a new regulation which is calculated to limit, if not to prevent, this reprehensible practice. Whilst methylated spirits for general use in the arts and manufactures may still be allowed to be sold, as hitherto, whenever it is supplied retail to the public it must contain a small quantity of petroleum. This admixture renders the methylated spirits turbid when diluted with water, and also imparts to it a more offensive character. The retail sales since the introduction of this regulation have, we understand, largely fallen off, and there is every reason to believe that the practice of using such spirit for drinking purposes has been extensively abandoned if not altogether stamped out. By the course adopted, it is believed by the authorities that a more effective control can now be exercised on the uses to which the spirit is applied.—*M. W. Trade Review.*

**LINOLEUM.**—A process has been devised for determining the quality of this useful article by chemical analysis. Its value depends largely on the amount and quality of linseed oil which it contains, and as this oil is frequently adulterated and thickened by saponification with oxide of manganese, the following method is a valuable one: Separate the upper layer from the painted cloth on the lower surface of the linoleum, then treat the upper part in a Soxhlet apparatus with ether and free it from oil, and examine the residue by proper methods. Analysis of linoleum gives about the percentages following: Moisture, 3.39; linseed oil, 11.43; cork, 7.24; silica, 2.94; alumina, 1.91; other bases, 1.31.

**DANGEROUS COLORS.**—In a classified grouping of colors dangerous to health, those less dangerous, and such as do not belong to either of those designations, the *London Chemical Review*

places under the first heading some fifteen substances, viz., orpiment, realgar, binodide of mercury, turpeth mineral, arsenite of lead, white lead, litharge, minium, Naples yellow, oxychloride of lead, arsenite of cobalt, verdigris, Scheele's green, Prussian blue, Prussian green. Under the second head—colors less dangerous to health—are enumerated chromate of lead, vermillion, sulphide of tin, mineral lake or chromate of tin, chromate of copper, purple red, Thenard's blue, oxide of zinc, chromate of zinc, chromate of barium, oxychloride of antimony, sulphide of cadmium, smaltz, ultramarine. Among the colors not dangerous are mentioned sulphate of barium, yellow and red ochres, Venetian red, cochineal, manganese brown, raw and burned amber, and sienna, sepia, indigo, colcothar.

**ALUM IN BAKING POWDER.**—The public analysts listened to an interesting paper by Otto Hehner upon this subject, who, from many physiological and chemical experiments, comes to the conclusion that as public analysts they would be acting contrary to the public interest if they passed alum baking powder as a genuine, legitimate article.

An American editor and his wife were walking out in the bright moonlight one evening. Like all editors' wives, she was of an exceedingly poetic nature, and said to her husband: "Notice that moon; how bright and calm and beautiful?"

"Couldn't think of noticing it," returned the editor, "for anything less than the usual rate—a dollar and fifty cents for twenty lines."

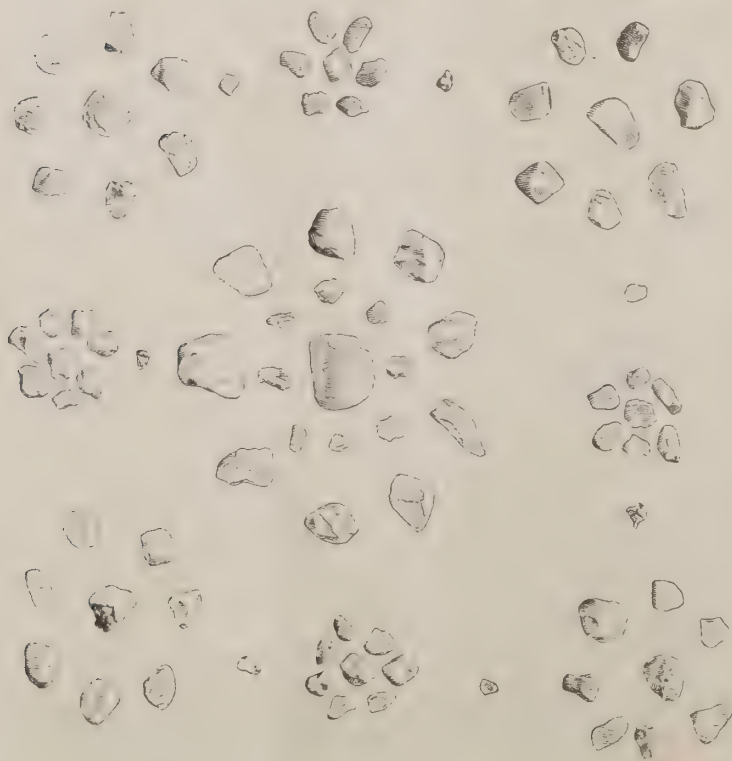
**A FRIEND IN NEED.**—"What is sweeter than a friend you can trust?" asked Gus De Smith.

"To have a friend who will trust you," replied Kosciusko Jones.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

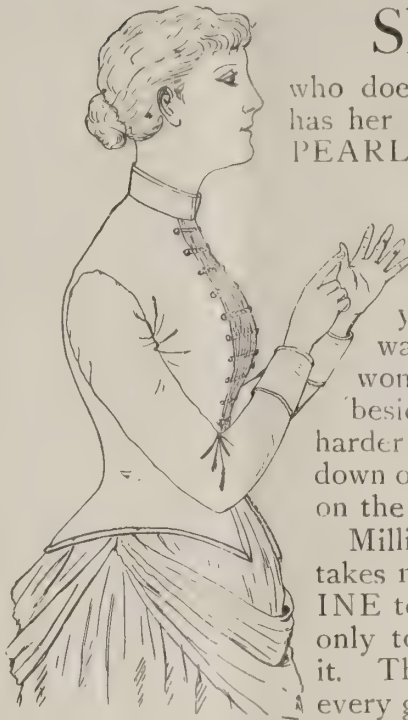
Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

**THOMAS F. GOODE, Proprietor,**  
**BUFFALO LITHIA SPRINGS, VA.**



## IMPROVE YOUR CHANCES.

If the press report is true that eighty-seven licenses for monster saloons within the World's Fair grounds have already been issued, the fact would seem to be a tacit admission on the part of the authorities that Chicago water will not be fit to drink and other quenchers must be supplied for the thirsty multitudes. Well, the newspapers, even those of Chicago, have been affirming that for some time. The pestilential ooze of the river, which is the city's principal sewer, flows directly out to the point in the lake whence the water supply is drawn, and so is brought back for a second consumption. It is not a pleasing condition of affairs to contemplate. There are dangers enough to health and life in any aggregation of vast numbers of human beings, even under the most favorable circumstances, but all other perils added together are less than the one of impure water supply. There is, however, no probability that this consideration will materially restrain the hundreds of thousands intending to visit the Fair from carrying their intent into execution. As true Americans, they will "take the chances" and "trust to luck." But they will, even if only a little prudent, do what they can to minimize the percentage of chances against them, and, as far as may be, "help luck." This they can do by get-



## She reckons well

who does her housecleaning and washing (or has her servants do this work) with PYLE'S PEARLINE.

**Why?** Because Pearline makes the largest saving all around; saves half the time; half the labor—more than half the wear. Do you know you don't have to rub the clothes when washed with Pearline? This saves the woman and makes the clothes last longer (besides, they look better). What can be harder on woman's health than bobbing up and down over a wash board? What can be harder on the clothes—anything harder don't exist.

Millions of women know these facts well; it takes many millions of packages of PEARLINE to supply their demands for it. You have only to prove these facts and you'll demand it. The best way is—try it. Costs little and every grocer has it.

## Beware

Peddlers and some unscrupulous grocers are offering imitations which they claim to be Pearline, or "the same as Pearline." IT'S FALSE—they are not.

171

JAMES PYLE, New York.

## Dyspepsia

Dr. T. H. Andrews, Jefferson Medical College, Philadelphia, says of

## Horsford's Acid Phosphate.

"A wonderful remedy which gave me most gratifying results in the worst forms of dyspepsia."

It reaches various forms of Dyspepsia that no other medicine seems to touch, assisting the weakened stomach, and making the process of digestion natural and easy.

Descriptive pamphlet free on application to  
Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For sale by all Druggists.

ting themselves into the best possible physical condition before exposure to the insalubrious influences they are sure to encounter. It is really wonderful how the strong vitality which is the product of thoroughly healthful organs and pure blood, will resist the assaults of disease, even in its virulent forms of infections and the poison of organic matter. If the bowels are acting normally, the liver and kidneys properly discharging their functions and the organs of assimilation exercising without perversion the strange discriminative faculty naturally inherent in them, it cannot but follow that the blood supplied for the nutrition of the entire animal man is pure and rich. The effete, foreign and vicious matter already in the life current—through natural waste, mal-assimilation or disease—is quickly expelled when those conditions are brought about and a new standard of vitality is established. A more vigorous sense of being and a keener enjoyment of life are felt; the capacity for physical exercise and mental effort, without fatigue, is vastly enhanced; causes that previously would have invited grave ailments now seldom have power to harm and even where attack is made by so extraordinarily pernicious a force as a draught of Chicago water, the danger is much diminished. This most desirable condition of animal economy is easily attained by taking a course of alterative medicine compounded of the fluid extracts of Honduras sarsaparilla, yellow dock, stillingia and mandrake (all of which, to be effective, must be extracted by the cold process, which alone retains their most valuable principles) and the great mineral depurant, iodide of potassium. The best security for getting just exactly the right preparation is in procuring Ayer's Compound Extract of Sarsaparilla, which is beyond question the best alterative medicine in the world, safe and in all cases surprisingly prompt and powerful.

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## HYGIENIC.

## SKIN BLEMISHES.

PIMPLES, MOLES, WRINKLES—SURFACE TREATMENT  
WILL NOT CURE—FINGER MASSAGE FOR  
WRINKLES.

Mrs. K.: Kindly tell me what causes pimples on the back, and if I can do anything to remove moth patches on the neck? Will finger massage remove wrinkles on the forehead? I have five little people to care for, and most of the time have to do my own work, as help is very scarce. I realize that with home and social duties, many times I work beyond my strength, but see no way to remedy it as yet.

1. It puzzles one to see what social duties belong to a woman with five children who does her own work. Do women ever realize that they owe any duties to themselves, or do their friends ever think so for them? One with five children has no right to weight herself farther with so-called social obligations. Pimples and moth patches show the system has lost its integrity and function, and cannot even dispose of its wastes properly. Large sweat glands exist on the back, which, next to the face, are apt to become the seat of acne, and should be washed with soap and warm water night and morning. All the advice I can give with sincerity to overworked women is, favor yourselves all you can. Rest counts more for you than medicine, and next comes something good to eat. Learn to say "no" to invitations to take part in church fairs and neighborhood festivals for years, till your children are able to work with you. Train them to help in every way, even at cost of lessons. It is worth more to them to have a mother than to be at the head of classes or to graduate.

2. For the moth patches apply oil of winter-green, diluted with five times as much alcohol, six times a day. To gain strength, which will enable the system to discard these blemishes, bathe chest, abdomen and back nightly with whiskey and quinine, which is far more effective so than taken internally. Eat nourishing, savory food; tempt the appetite; for mothers with five young children are apt to neglect themselves till they suffer from semi-starvation.

3. Finger massage with a good toilet cream or cerate will remove wrinkles, if overwork and grief do not reinstate them daily.

Mabel: I am eighteen years old, and should have a good complexion, according to the hereditary law. But, although I have red cheeks and my skin looks comparatively clear, on close inspection it is filled with blackheads. My back, chest and arms are broken out much worse than my face. I have used proprietary soaps on my face, but that makes it worse. When I am at home I take a bath two or three times a week in summer and once a week in winter. In summer at the beach I take a sponge bath every Saturday and a swim in the salt water almost every day.

Recollecting that skins given to blackheads also perspire and secrete oily matters in excess, the bath "once a week in winter" and the sponge bath in summer can hardly be more than one-seventh the care demanded. A swim in cool sea water does very little to relieve the skin of the oil and wax which clog its pores. The warm soap and water bath, in which the skin soaks and is cleansed, is a daily necessity for persons afflicted with blackheads and greasy skins. In these cases the skin has double if not triple duty to perform for itself, bowels and kidneys. It is useless to expect any soaps or creams to cure blackheads and roughness, unless personal habits are corrected.

And the third generation, if not the second, brought up to use white bread are certain to have blackheads or worse. We might as well expect to raise an able-bodied race on concentrated extract of beef, never allowing it to know meat. Neither baths without diet nor spare diet without hearty food or baths will cure skin troubles for any length of time. The entire round of health must be attended to, not for a season but as the habit of life. If strong soap is used on the face and the rest of the body neglected, it will draw humors to the part stimulated most.

Jane: Will you please give me some simple remedy for tan from exposure to wind and sun? Also what do you think of my handwriting.

1. I could name simple remedies for sunburn, but simple remedies for tan are not worth much. Most of the "simple" cosmetics for tan are solutions of corrosive sublimate more or less strong. The most widely and brazenly advertised "face bleach" in the country was analyzed by the Massachusetts Board of Health and found to contain 15 per cent of this deadly simple poison, and its sale forbidden. As the usual hospital solution, 2 per cent, used on wounds and eczemas, not seldom proves poisonous by absorption, the risk ignorant women run in using the unwarranted preparations is frightful. Very sour, thick buttermilk, applied as a poultice all night, is the simplest remedy for tan, but most persons find the remedy worse than the disease.

2. Since you request an opinion of your handwriting, I have to tell you it is unformed, and far from being a clear or good hand. The a's and o's are not closed, the t's are looped like l's and the k's are too much like p's. It is a difficult hand to read and needs simplifying, more care and fewer flourishes.—*Shirley Dare, in Louisville Courier Journal.*

#### PHYSIOLOGICAL ACTION OF MASSAGE UPON HUMAN MUSCLE.

In the *Arch. Italiennes de Biologie*, Maggiore's experiments with Mosso's ergograph lead him to the following conclusions:

1. Massage applied to a muscle at rest increases its resistance to fatigue, and modifies and delays fatigue proper.

2. In certain cases the good effects of massage are in proportion to the length of time that it is given.

3. Massage prevents in muscles the accumulation of fatigue-products due to work that is too closely consecutive.

4. Percussion and rubbing are inferior to kneading and to mixed massage; that is, to the alternate application of these three methods.

5. In muscles weakened by fasting, massage increases resistance to the effects of work.

6. Upon muscles fatigued or weakened by general causes, as forced marching, watching, brain-work, massage exercises a restorative action.

7. Massage has no good effect whatever upon muscles in which the circulation of the blood is suppressed.

#### SIMPLE METHOD AND A CHEAP APPARATUS TO REMOVE DISEASE-GERMS FROM DRINKING WATER.

It is a known fact that water mixed with alum becomes clear and free from germs. But alum is mostly added to the water in such a large amount that the dissolved alum causes indigestion very often. To find the proper amount of alum, V.

and A. Babes have made careful experiments. They found that by adding 0.15 to 0.25 grams powdered alum to a litre of the dirtiest water, the latter came out quite clear and free from germs, and yet the water did not contain any dangerous and noticeable quantities of alum.

They also treated water with iron sulphate and calcium carbonate. By adding 0.25 gram of these salts to a litre of water, the latter was completely purified.

In order to use this method for the household, V. and A. Babes propose a very simple apparatus, namely: a vessel (made of glass or zinc, in the shape of an Erlenmeyer flask, and holding 20 to 40 litres), with a hole in the bottom. In this hole a glass tube fitted with a cork is fixed by means of a perforated rubber stopper. The tube is 5 cm. at the opening in the flask. After having filled the vessel with water and added 3-5 gram of alum or iron sulphate and calcium carbonate, the whole is mixed thoroughly. Then the apparatus is closed and allowed to stand. After eighteen to twenty hours the water can be used by opening the cock.—*Centralblatt f. Bacteriologie.*

## BUSINESS NOTES.

### DEAFNESS CANNOT BE CURED.

By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian tube. When this tube is inflamed you have rumbling sound or imperfect hearing, and when it is entirely closed, deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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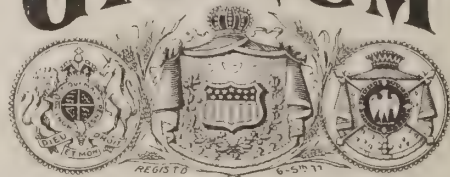
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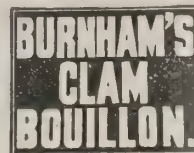
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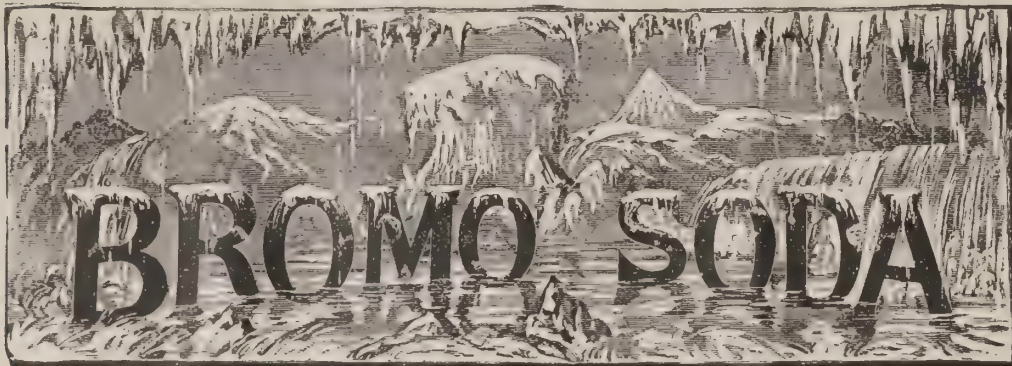
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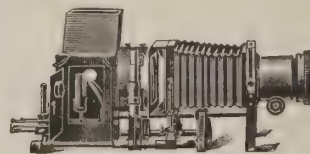
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H. LASSING, M. D., Editor,

No. 19 Park Place, New York

MAY 1, 1893.

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### WHAT SHALL WE DO?

The probability of an invasion of cholera this summer appears to be uppermost in the minds of people. There can be no doubt that the distant mutterings of the storm are already heard. We must be prepared for it, then if we happily escape we have at least the assurance that we have done all we could, and that is no more than our plain duty. The first and most important thing to consider is how to place the system into fighting trim and bid defiance to the invader, even his entrance into our midst cannot be prevented. By eating wholesome food, drinking pure boiled water, keeping the skin clean, frequent changes of clothing, sleeping and living in well ventilated rooms we can do much. Other valuable directions may be found in another column.

### THE CHOLERA OUTLOOK.

Dr. Albert Schneider in a carefully written article in the *Literary Northwest* says:

"It is more than likely that cholera will visit us in 1893, because, as a rule, it remains for several years after it has made its appearance. It will be still more likely if we should have another warm and moist season. If cholera makes its appearance in Chicago, it will not only be the death-blow of the World's Fair enterprise, but Chicago will serve as a nidus whence cholera will spread over the greater part of the United States. What shall we do? Shall we rest quietly in our present imaginary safety or shall we busy ourselves now to keep out cholera? I give a general idea of what I think would be the best plan to keep out cholera. In every city of the United States there should be an efficient board of health, with full police authority. The board of health should look after the cleaning of sewers, streets, alleys, wells, cisterns, dwellings, especially second-hand shops, cheap restaurants, and hotels, all sorts of drainage, all manner of traffic—in fact, everything relating to the sanitation of the city or community. They should have all the necessary means for thorough disinfection, isolation, or destruction of anything they thought dangerous. These boards of health must consist of energetic, intelligent physicians, should be appointed now, not after the cholera has made its appearance. I do not think that it will do any good to stop immigration unless commerce also is stopped. Persons do not spread cholera when they are in a healthy condition. What must be done is to have all commercial intercourse looked after by the boards of health."

We have only to add that this is an occasion when the good of all requires that politics and jealousies be laid aside and everyone go to work to do what he can to prevent cholera from getting a foothold in our land.

### HYGIENIC.

#### PRECAUTIONS AGAINST CHOLERA.

Keep your presence of mind in the danger; avoid too great anxiety, for it clouds your clear judgment. Only the man who thinks clearly can make proper use of the precautions against danger.

Maintain cleanliness of your person and surroundings. Discretion, temperance, precise cleanliness, prove the best protection against disease.

Hold firmly to your ordinary regular mode of life. Avoid festivities and assemblages of people. Avoid medicines as long as you are well.

Visit the sick only when your duty calls you.

Avoid intercourse and close contact with persons who come from cholera regions.

Do not leave your home in order to escape the disease. Consider that you may be in greater danger in traveling, and living under altered conditions in a strange place, than while leading a careful, regular life at home.

Do not put other objects besides food and drink in your mouth, e. g., the fingers in turning through a book, penholders, lead-pencils, etc.

Drink as little water as possible, and only such as you know to be above suspicion.

Pure spring water is, as a rule, unsuspecting. Water from deep pipe wells and from closed pipes, if taken from open waters such as have been subjected to a genuine filtering, is safe. (Small house filters, unless frequently changed or cleaned, are rather harmful than useful.)

Water from rivers, ditches, ponds, flat, open, or poorly-covered springs, also from springs which are near dirt or dung sites, is suspicious during cholera epidemics. All washing and rinsing, as well as pouring out of dirty water near springs, may be dangerous to health.

Suspicious water during the prevalence of, or near, cholera is only safe to use for drinking, washing the face, rinsing the mouth, washing utensils used for food and drink and the like, after being boiled one minute. The germs of the disease are destroyed by cooking, but fresh germs may again occupy it if it stands long.

To make boiled water taste well, add to each glass (half a pint) as much tartaric acid as you can take on a knife-point, or two drops of hydrochloric acid.

Keep water in clean vessels.

Tea, coffee, and cocoa are permitted drinks, also good beer and pure wine.

Beware of ice and very cold drinks.

Let your beer be clear and fresh, neither sour nor insipid; have it served to you in glasses which have been washed with unsuspecting water (when necessary boiled).

Bitters often contain aloes, hence act laxatively and are questionable.

Mineral waters are unquestionable, if they come from natural springs or are prepared with distilled water.

Avoid drinking uncooked milk.

The disease may adhere to butter and fresh cheese, if they were prepared or kept near persons ill with cholera.

Eat fruit and vegetables, also onions and the like, only in a cooked state.

Eat nothing uncooked or unroasted which strange hands have touched, unless you know them to be reliable.

Purchase food only from reliable, clean shops. Avoid such as are in cholera houses.

Avoid all excess in eating and drinking. Be especially cautious if you incline to diarrhœa.

Eat and drink nothing as wholesome which is in a sick room. Consider that flies and such insects might carry the germs of disease from the patient to your food.

Even cigars may convey infection in a patient's house.

Keep your head cool, your body warm, your feet dry.

Live and sleep in pure air; fumigations do not prevent contagion.

Wash your hands frequently during the day with water, soap, and brush, especially before you touch eatables.



If you have touched any dirty or suspicious object, first wash your hands carefully with a solution of four teaspoonfuls of water (clear) fluid carbonic acid in a quart of water (5 per cent carbolic acid solution); then wash this off with clean water and soap.

In cholera regions do not bathe in rivers or ponds.

Use a public privy only in case of necessity. The seats of privies which are used by strangers should be cleaned daily with soapy water. For this take one pound of soap to a pail of hot water. If your privy is used by persons suspected of disease, rinse the basin or pipes with freshly-slacked lime (1 part quick-lime to 4 parts water).

The infectious material of cholera is contained in the excretions of the patient. It adheres to soiled linen and clothing, and can be transmitted by anything which touches such objects or excretions, even when this only occurs indirectly and not in a noticeable manner.

Excretions of persons ill with, or suspected of having, cholera, and floors, etc., soiled with them, disinfect by copious (at least hourly) use of slacked lime or chlorinated lime solution (5 drachms chlorinated lime to 1 quart cold water), or other trusted disinfectants.

Linen, clothing, bedclothing, covers, and the like, also, such as come to you from cholera regions, send, well wrapped up and tied, to a public disinfecting institution.

If such is not within reach, soak the things twenty-four hours in soap and water (one pound washing soap to a pail of hot water), and then boil thoroughly.

Other soiled objects cleanse thoroughly with soapy water with quick-lime or carbolic acid solution. If the nature of the objects does not admit of this, then place them for at least six days in an unused, airy, dry place.

Thorough drying is unfavorable to the development of the disease germs.

If your digestion is disturbed, if you have diarrhoea, especially with vomiting or great nausea, consult a physician at once.

Until he comes take a warm drink, put on a woolen bandage about your body, remain in your room; if in great distress, go to bed.

For relief, you may take a cup of tea, with cognac or rum. Let your food be a mucilaginous soup, also, zwieback, or stale white bread without butter.

If you have reliable (prepared from a physician's prescription) cholera drops at hand, take from twenty to thirty drops on sugar.

Keep your presence of mind, even if you are ill. Fright and cowardice act unfavorably on body and mind.—*Therapeutic Gazette*.

#### GROWTH OF BACTERIA THROUGH THE PASTEUR-CHAMBERLAND FILTER.

The fact has been asserted for a considerable time that the Pasteur-Chamberland filter was not proof against bacteria. This was disappointing as it was hoped by all, and believed by many, that the Pasteur filter would remove all organic, as well as inorganic, material from the water which passed through it. Several tests have been devised for proving the passage of bacteria through the *bougie* of the filter. Smith and Moore (*Centrablatt f. Bakteriologie Parasitenkunde* xii., 1892, p. 628) describe an extremely simple method. A bougie from an ordinary Pasteur filter is inverted in a large glass tube the top of which is plugged about the bougie with cotton. It is then sterilized by dry heat. A culture of the germ to be tested, which has grown for a few

hours only, is transferred to the tube by means of a sterilized pipette. By means of air pressure a portion of the liquid is forced through the bougie into the tube. The filtered liquid is perfectly clear. The entire apparatus is then placed in an incubator. The filtered culture liquid in the tube will remain clear until it is rendered turbid by the multiplication of bacteria which have grown through the walls of the *bougie*. The author found that the hog cholera germ would grow through the tube in from five to ten days. The experiments made were sufficient to show that the pores in the tubes are large enough to admit of the passage of bacteria the size of cholera spirillum or typhoid bacillus. They also show that there is a difference in the pores of different tubes. [These facts confirm in a measure the statement of M. Dujardin-Beaumetz that, "filters are of no use whatever, and thus another cherished illusion is likely to disappear." The fact should be borne in mind that, thus far, there has been no filter devised that is capable of turning out water "germ free" after it has been used for a considerable time. The only reliable method of obtaining wholesome drinking water is, if the water is cloudy from holding earth in suspension, to filter it to remove the dirt, boil it to destroy the bacteria and keep it until used in a sterilized vessel placed in a refrigerator. This is important at all times, but more especially during the coming season when cholera may dangerously contaminate the water supplies in many sections of our country. —Ed.]—*Med. and Surg.*

#### INVENTIONS, SCIENCE, ETC.

##### WILL CHEMISTRY ENLARGE THE CIRCLE OF OUR FOOD SUPPLY?

In the *Deutsche Revue* for January Dr. Justus Gaule considers this subject in an advanced and intelligent manner. In his prologue the author says in effect that the brilliant achievements in chemistry during the present century have led many to look forward to a time when man, drawing his food from the atmosphere by the witchery of chemistry, shall pass his life in happy, careless ease. The design of this paper is to show the vanity of such dreams. Chemistry may, and probably ere long will, succeed in producing all the prime constituents of food—the albumens, fats, carbo-hydrates, etc.—on the experimental or the laboratory scale, but for their production on a scale commensurate with human needs she can not, with all her appliances, hope to rival Nature. With this prologue the author says: "Certainly neither chemistry nor any other science will ever invent an apparatus for the production of food substances as perfect as that which Nature has created and placed at our disposal. Consequently, her methods will always remain the only methods of production. But the consideration of the question whether Nature's apparatus might not be advantageously superseded, has taught us something. That is the laws by which she works. In the moment in which we shall be able to produce food substances artificially, we shall arrive at a comprehension of how Nature accomplishes it. Then shall we learn to comprehend and appreciate the significance of the vegetable kingdom as the wondrous and perfect chemico-physical laboratory of Nature. Then, too, we may learn to wait on and facilitate her operations and increase her productive capacity to the measure of our growing needs. The question of the future will, therefore, be not whether chemistry will replace agriculture as the producer of the necessary food supply for the numerically ex-

panding race: It will be whether the agriculturists will learn so much from chemistry that they will cease to follow their pursuit on the old, unintelligent, routine method, and engage in it as a branch of chemical science. Agriculture is not the antithesis to industry; it, too, is an industry resting on a scientific foundation, with laboratories and factories built by Nature's hands, with power drawn neither from water nor from coal, but direct from the sun. When agriculture shall be thus pursued it will not fail to respond to the growing needs of the ever-increasing race. The elementary constituents of our food substances are not destroyed by their consumption; nothing is lost, but simply transformed in its transition through the several compensating stages of the endless circle of organic life. Increase of food-consumption involves increase of animal refuse, the raw material for the production of fresh food-substances in Nature's cunning workshops. The animal and vegetable kingdoms compensate each other; where the former increases her demands it at the same time provides an increased supply of the necessary raw material. The supply, therefore, cannot fall short, unless the order of transition proceeds too slowly. If at any time existing animal life shall require for its daily sustenance more than the daily average of food-products in the vegetable kingdom, it will then become a problem of agricultural chemistry to increase its productiveness up to the required standard. To do this it will be necessary to increase the capital productive stock—that is, the number of vegetable cells in which the vital chemical processes are carried on. The power which sets and maintains the machinery in motion is light, of which the supply is unlimited; all that is necessary is to enlarge and increase the number of the surfaces that absorb this light, and that is, within very wide limits, possible. Until recently it was not possible to base this confidence on scientific grounds. While all the elements were in abundant supply, one of them, nitrogen, appeared intractable in the free state, and exists in limited supply only in the combinations in which plants take it up; recent discoveries have, however, shown that certain plants, especially the pulses, or some fungus which attaches itself to their roots, have the capacity of drawing nitrogen direct from the atmosphere and of combining it in suitable forms for future plant-food supply.

##### A NEW DISINFECTANT.

Calcium Cresylate is a new disinfectant recommended by Prof. Fodor, and is prepared in the following manner: Slack 1 part of caustic lime with 4 parts of water, and add 5 parts of crude cresylic acid. The result is a syrupy fluid, and said to be miscible with water in every proportion. It is cheaper than crystallized carbolic acid, and superior in efficacy as a disinfectant.

##### CARBONIC ACID PRESERVES MILK.

Microbes and carbonic acid do not seem to be particularly incompatible, to use a pharmaceutical expression, but they do not get along together any too well. Thus, Nourry and Michel find that ordinary milk, which becomes curdled in forty-eight hours at the outside, suffers no change until the expiration of eight days if it be saturated with carbonic acid under pressure. If the raise of temperature to 45 deg. to 80 deg. is made the curds form as usual, while at a temperature of 120 deg. they are formed at once without any interval. Hence the use does not seem to exert a microbicidal action in the ordinary sense of the term, but it checks the development of the microorganisms.



**FLIES AND THE CHOLERA.**—Flies are the agents of propagation of a large number of contagious maladies. Persons are very often inoculated with carbuncle by flies. Some experiments of Cornil have demonstrated that they can carry the bacillus of tuberculosis. Dead flies, when dissected, often contain bacilli which have been absorbed from the spittle of consumptives and these bacilli preserve their virulence. Dissemination of the germs of yellow fever has also been attributed to flies. Some recent experiments of Mr. Simmondi, of Hamburg, prove that flies, during a cholera epidemic, may be a dangerous factor in the spread of the malady, when they alight on food which, like soup, milk, sauces, are an excellent medium of culture for the comma bacillus. Mr. Simmondi took nine flies from the recently opened intestines of a patient who had died from cholera, and put them in a large bottle in which they could fly about. In from five to forty-five minutes each of these flies was put in a tube containing liquefied gelatine, which, after being shaken, was emptied on a saucer. In forty-eight hours all the saucers were covered with abundant colonies of the comma bacillus. In another experiment, six flies were placed under a glass, with a fragment of a cholera patient's intestine, and afterwards in a large vase, where they remained for an hour and a half. Then each of them was put in a tube of gelatine. When the gelatine was poured out on saucers, it gave birth to innumerable colonies of the comma bacillus.—*Cosmos, Paris.*

**ARTIFICIAL ICE.**—Few industries have grown more rapidly than the manufacture of ice from distilled water. With the resources of modern chemistry, clear, firm blocks of durable ice can be made at a price almost defying the competition of the speculators who cut frozen mud from the canals and suburban ponds. The only redeeming feature of the canal-ice traffic is the circumstance that it gives employment to thousands of tramps, at the hungriest time of the year—unless we should add the fact that the patrons of the speculator get meat as well as drink for their money; the number of microbes in a cubic foot of pond-ice being something between a billion and a billion and a half.

**A STOKER'S SAVIOUR.**—The Austrian engineer Werner has patented an invention which bids fair to turn the labor of a stoker, or steamboat fireman, from the hardest, ugliest, and most unhealthy sort of toil into mere child's play occupation. His plan consists in pulverizing bituminous coal and feeding it to the furnaces by means of a pear-shaped "distributor," self-acting under ordinary circumstances, but withal amenable to the control of the operator. Experiments have provided that coal-dust, poured into a strong blaze, will burn almost without a residuum. There will be no raking of ashes and clinkers, next to no smoke, and the apparatus can be worked without approaching the haunts of the furnace door.

**ELECTRIC-LIGHT BUG.**—With the introduction of arc lights in the South have come numerous bugs of more or less dangerous species. One in particular that is worthy of notice has been termed the electric-light bug. It is about an inch and a half long, and from a sixteenth to a quarter in thickness, and seems to consist wholly of legs and wings. They have hitherto been considered harmless, but now it is believed that they bite or sting, with direful results.—*Electrical Review.*

**Literary Visitor**—Willie, do you know who the autocrat of the breakfast table is?

**Wily Willie**—Yes, sir; it's our hired girl.

## MEDICAL.

### VALUE OF GELATIN AND GELATIGENOUS FOODS.

Although gelatin is an albuminoid, rich in nitrogen, and in many ways related to albumen, it cannot take the place of the latter in a normal diet. It is, however, a natural ally and companion of proteid matter and when administered with the latter as a part of the daily food, nitrogenous equilibrium is established with a smaller quantity of proteid than when the latter food is taken alone. If, on the other hand, gelatin or gelatigenous foods only are fed then death speedily follows from nitrogen starvation. This condition of things is certainly very suggestive as showing the need of animal organism for a certain form of nitrogen; a need which can be wholly supplied only by proteid matter. One reason why gelatin cannot take the place of albumen in repairing the waste of the tissues is to be found in its rapid and complete transformation within the body into katabolites which are eventually excreted in the form of urea. In other words, gelatin is quickly and completely broken down into waste products.

While, therefore, gelatigenous foods have little or no direct value as a part of normal diet, it is not to be assumed, as has been sometimes done, that they are wholly worthless and devoid of all nutritive properties. Collagenous foods, under the influence of the acid gastric juice, are quickly swollen up and are eventually transformed into soluble and diffusible products—gelatoses and gelatin-peptone—which are rapidly absorbed. Further, when once acted upon by gastric juice, they are similarly digested by the alkaline pancreatic fluid, and hence run little risk of passing through the alimentary tract unchanged. Gelatin itself is equally digestible in gastric and pancreatic juice, but collagenous matter can be dissolved by the pancreatic ferment only after it has been subjected to the preliminary influence of acid fluids. The real value of gelatin as a food lies in its ability to protect and diminish the consumption of the more important proteid foods. This power rests primarily upon the ease and rapidity with which it is decomposed within the body, giving it value as a substitute in a limited sense for albuminous matter, the metabolism of which, as already stated, it diminishes. Its value, however, is limited since it cannot be utilized for the purpose of building up or repairing the tissues.

Containing a somewhat greater proportion of nitrogen than the ordinary forms of animal proteids, gelatin yields a larger amount of urea by decomposition and consequently when ingested, especially in large quantities, may give rise to an excessive elimination of urea, inducing thereby increased diuresis and consequent thirst and demand for fluid. Further, Schiff is authority for the statement that gelatigenous substances promote the secretion of gastric juice, and that consequently they belong to the group of peptogenic foods.

Gelatin has also been observed to produce a slight diminution in the metabolism of non-nitrogenous foods: hence, as stated by Yeo, "it may be accepted as a practical conclusion that gelatin is an 'albumen-sparing' food and that alimentary substances containing it tend to prevent the destruction of albuminates and fats." Especially useful is gelatin in cases of fever where the stability of the "organic albumen" is threatened, and under such circumstances the capacity for assimilating proteid food is greatly diminished by the

addition of gelatin to the naturally light diet of the fever patient.

Without doubt, the efficacy of properly made beef tea as a nutrient is partially due to the gelatin it contains, for gelatin taken in this form, or indeed in the form of jellies, is well tolerated and easily digested. As Germain Sée has well said, gelatin may be taken in large quantity with impunity, and is to be looked upon as "an auxiliary means of conservation of our tissues. From this point of view, gelatin cannot be too strongly recommended, prepared in the most various forms and with a variety of flavors." Further, under all circumstances, as a constituent of soups and broths, it occupies an important position among animal food-stuffs as an agreeable albumen-saving nutrient.—*Dietetic Gazette.*

### MANY DISEASES CAUSED BY PARASITES.

The list of diseases of demonstrable parasitic origin is constantly growing. An analysis of the successive stages through which our views upon the infectious diseases have passed makes an interesting study. For a while investigators were bent upon finding a specific micro-organism for every well-defined disease. It took some time to learn that while the microbe is the most important factor in the development of the given disease, it is not the sole element. Then began the study of the products of the bacteria, which was soon followed by remarkable developments in the direction of immunity and cure. For a time the vegetable organisms occupied almost universal attention. Now the scene has changed. With Laveran's description of the hematozoon of malarial fever a new line of investigation was opened, in which but little progress was made until recently. Great interest attaches to the study of the animal parasites of certain infective diseases. We know that a form of dysentery is dependent upon a protozoan amoeba. Testimony is accumulating in favor of the etiologic dependence of carcinoma upon animal organisms. More recently still an observer describes characteristic animal organisms associated with measles, scarlatina, syphilis, and smallpox. We conclude as we began: The list of infectious (parasitic) diseases is constantly growing.—*Medical News.*

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### A LA MODE BEEF.

Six pounds lean beef off the round is the best, four large onions cut fine, large stick of cinnamon broken in small pieces, twenty-five whole cloves, a tablespoonful whole allspice, half can tomatoes, a stalk of celery cut fine, two or three tablespoonfuls of any kind of preserves, six carrots cut in quarters. Put the meat and all ingredients but the carrots in a pot and nearly cover with boiling water. Let it cook gently for two and a half hours; salt and pepper. When the meat is half cooked, add carrots the same time. When the meat is done, put on platter and put carrots around it. Thicken gravy and strain.

#### BREAD SAUCE.

Simmer an onion that has been sliced in a pint of milk until tender, then strain and pour over a cupful of bread crumbs, which should be put in a saucepan. Cover and soak half an hour; beat



smooth with an egg whip, add a pinch of mace, pepper and salt to taste, and three tablespoonfuls butter; stir well and let it come to a boil. If too thick, add a little boiling water. Serve in gravy tureen. This is for roast poultry.

#### BROILED SWEETBREADS.

Parboil, rub well with butter, and boil. Turn frequently and roll in hot-melted butter.

#### PARSNIP FRITTERS.

Peel three large parsnips, boil until tender, then mash until smooth, picking out the hard bits. Beat two eggs light, stir in mashed parsnips, beating hard; then one tablespoonful butter, one teaspoonful salt, one cup milk, and three tablespoonfuls flour. Fry as fritters or griddle cakes.

#### BREADED EGGS.

Boil hard, and cut in thick slices. A little pepper and salt sprinkled on; dip each slice in beaten raw egg, then in fine bread crumbs or powdered cracker and put in nice dripping or butter.

#### WINE JELLY.

Soak a package of Coxe's gelatine in a pint of cold water one hour. Add to this sugar to taste, juice of two lemons and grated peel of one, a good pinch of cinnamon; pour over this a quart of boiling water, and stir until thoroughly dissolved. Put in a pint of wine—pale sherry or white—strain through a double flannel bag, without squeezing; wet the moulds with cold water, and set the jelly away in them to cool.

#### BRANDY SAUCE (HARD).

Warm half a cup of butter slightly, work in two cups powdered sugar. When light, add one wine glass brandy, one teaspoonful mixed mace and cinnamon. Beat hard.

**TO REMOVE BLOODSTAINS.**—To remove stains of blood, saturate the spots in kerosene, and let stand for a time; afterwards wash out in warm water.

**RUINOUS RODENTS.**—Mice have caused conflagrations by nibbling matches, and lined their nests with fractional banknotes, but must yield the palm of destructiveness to the California gophers, with their penchant to undermining dams, and to the Australian rabbits, whose depredations are estimated to aggregate \$5,500,000 a year.

**HOW TO PREVENT MOSQUITO BITES.**—A saturated solution of camphor in strong alcohol, or solutions of the oils of eucalyptus, pennyroyal and cajeput, is usually considered quite effective in preventing the attacks of mosquitoes. In addition to the above, the *Bulletin of Pharmacy* has recently published the following formula as a protection for the hands and face:

Spirit of camphor.....30 grams.  
Oil of eucalyptus..... 5 grams.  
Spirit of soap.... .....15 grams.

The directions for its use are to apply a few drops to the exposed parts.

**HE KNEW HIS ARITHMETIC.**—Young Featherly—Are these your children?

Mrs. Brand—Oh, yes; the boy is five years old and this girl seven.

Young Featherly—Well, how time flies? It doesn't seem possible that you have been married twelve years.—*The Million*.

**FORTUNE FAVORS THE BRAVE.**—Mrs. Malaprop—Oh, dear! what do you think? I've just had a tooth pulled and there was a great big ulster at the end of it.

Sympathizing Friend—Why don't you try another? Perhaps you'll strike a sealskin.—*Judge*.

## MISCELLANEOUS.

### PURIFYING WATER CHEMICALLY.

That permanganate of potash has a power of oxidizing is very well known and daily put to use in detecting and estimating the amount of organic matter contained in a sample of water. The process consists in letting fall drop by drop a certain solution of this salt into the water under examination, until the red color that is characteristic of the permanganate persists; we are then certain that the entire quantity of organic matter has been oxidized and destroyed.

Transporting into the domain of hygiene this process, which had heretofore been solely applied to chemistry, Catherine Schipiloff has deduced from it an ingenious means of purifying drinking water which has been published at length in one of the last numbers of the *Revue Medicale de la Suisse Romandi*, and although the number of processes of sterilizing water is now quite considerable, it can only be to our advantage to know of this new one, which is highly recommended, if only on account of the ease with which it can be applied.

At a dose of five or six centigrammes per litre permanganate of potash purifies completely and instantaneously green, stagnant water from the dirtiest pond that can be found, perfectly alive with living organisms. When brought into contact with organic matter the permanganate oxidizes it and decomposes itself into a dark brown precipitate, the binocide of manganese, and into a little potash, which remains dissolved by entering into combination with the carbonic acid gas contained in the water. There must always be a little too much permanganate put into the water and this can readily be perceived by the purplish pink color it assumes.

To eliminate, then, the excess of salt, the water must be supplied with some fresh elements of oxidation, but harmless ones this time, such as, for instance, a little sugar, wine, rum or cognac, if the process is being applied to only a small quantity of liquid, or such as finely crushed charcoal, if a large quantity of water is to be purified. When a sufficient amount of this powdered charcoal has been added to the tainted water, already treated by the permanganate of potash, the liquid should be well stirred for several minutes; it then loses its color and comes out perfectly clear and transparent when passed through a double layer of fine cloth.

This water is very pure and only contains a slight quantity of potash in the form of carbonate. The binocide of manganese which remains is absolutely harmless, and since it has even been used in the place of the salts of iron in the treatment of anæmia the water which contains it can be taken with impunity; when there is no hurry, however, it can be passed through a filter or allowed to settle. The water is perfectly clear and healthy, absolutely sterilized, all the microbes and soluble poisons it contained having been destroyed. The powdered charcoal that has been used can serve another time, but it is well to dry it thoroughly after each process.

From what we know of Catherine Schipiloff's experiments this certain and rapid process costs almost nothing. With one kilogramme of permanganate of potash, costing on an average 1 fr., 20,000 litres of water can be purified at five centigrammes per litre. From this it will be easy to see that I was right in saying that the method of purifying drinking water by permanganate of potash is an easy one, and on that account worthy to be recommended.

### PLANT LICE, WHICH ARE USED BY ANTS AS THEIR COWS.

Almost every plant has its peculiar aphid, or louse, creatures which nature has endowed with wonderful powers of reproduction. Among these odd insects there may be from twenty to fifty generations in each year, each generation capable of producing others. A distinguished naturalist has given figures to prove that one pair of aphides in five generations, all of which could be brought into the world in less than ten days, would have descendants to the number of 5,904,900,000.

Ants, although they cannot also be classed as the "most wonderful insect of creation," are certainly the wisest. They use a certain species of aphid as their cows. The ant finds the aphid with his proboscis pushed entirely through the bark of some tender plant, slowly sucking the life's blood (sap). Reason (it cannot properly be called by any other name) teaches the ant that if the aphid is irritated he will void this digested sap.

Straightway Mr. Ant marches up to the helpless aphid and proceeds to irritate the poor creature with his feelers, and forthwith the sap begins to flow from two bristle-like tubes which are situated near the tail end of the aphid. This flow of sap is what the ant had reason to expect, and as he is very fond of it he begins to greedily suck it up.

Livingstone tells of a species of aphid which inhabits the fig trees of Africa, which constantly distil water until it forms in great puddles on the ground underneath. There seems to be some contention among naturalists as to whether this insect distils its water from the sap of the plant which it infests or from the atmosphere. Livingstone found some of them at work on a castor bean plant and set about making an experiment.

When first surprised at their work distillation was going on at the rate of one drop every sixty-seven seconds, or about five and a half tablespoonfuls every twenty-four hours. He destroyed the bark of the plant below them, and, although it is known that sap must come from the earth, they were actually distilling a drop every five seconds, the flow being thirteen times greater than it was the day before.

He then girdled the plant so deeply that it dried and broke off; still the little colony of insect wonders kept at work, regularly distilling one drop every five seconds, while another colony on a green twig only managed to distil a drop every seventeen seconds.

There are many other curious points about aphides, such as the idea that they are the progeny of ants, that they will turn to ants, or that ants will turn to aphides—common errors.—*St. Louis Republic*.

### ANIMAL TRIALS BY JURY.

Among the beavers it is undoubted that courts were held and judicial functions exercised, and the sentences carried out with most exact discipline. This is proved by the fact that near to every beaver settlement there exists a class of what are called "bachelor beavers." This is composed of two sections—old males who have lost their mates and were held to be no longer of true use to the community, and younger "bachelors" who had been expelled from the settlement for misconduct, idleness and laziness, more generally theft, and by a jury awarded a sentence of perpetual exclusion, a kind of penal servitude, which all the community of beavers were bound to join in order to see thoroughly carried out.

These "bachelors" live alone, not in warm



houses protected by dams, as in community, but in holes in the banks of the rivers—prison cells, in fact—where they can just manage to live, and where they can at a pinch succeed in storing sufficient winter food. Sometimes their privations must be great, but there is no escape for them. If they endeavor to build a proper beaver house—at all events, within ken of any of their old associates—it is reported, and it becomes the bounden duty of the members of the community to turn out and destroy what has been done.

Penal servitude among beavers really existed, as it does among us. The beaver thief is compelled to work hard, and in isolation from his family, and yet cannot secure the most primary personal comforts—cannot exercise in that craft of construction in which alone he can find true pleasure. He must atone to society for his fault, just as our convicted prisoners do.

Any one who has seen the beavers at the Zoological Gardens ceaselessly comforting themselves and passing their time in constructing houses that they do not need, will realize what a punishment a jury of beavers mete out to one of their own kind who is idle or lazy, or has been guilty of theft, or violated any of the essential laws of the beaver community, when they make him a "bachelor" beaver and will not let him erect a house near to them.—*Cassell's Magazine*.

#### WILL THE COMING WOMAN LOSE HER HAIR?

Miss E. F. Andrews has been impressed with the fact that while some authorities have been predicting a "bald headed and toothless future" for the race, the evidence is that only half the race (at most) seems to face this prospect. She has never seen a case of complete baldness among women of any age; partial baldness is rare, even among sexagenarians, and the luxuriant suits of hair found among young women form such a contrast to their brothers' capillary condition that some explanation seems called for. The causes assigned by would-be authorities for baldness of men are discussed only to lead up clearly to an important and interesting biological problem: why should one sex enjoy such immunity from a loss which it seems both sexes should suffer equally if the ordinarily assigned causes of baldness are the true ones? Without dwelling on the causes of baldness, what is the cause of non-baldness? The answer is—sexual selection. While women show an almost utter indifference to the presence or absence of hair on men's heads, men do not display indifference to this feature of women. On the contrary, a woman's hair is considered of so much importance that a woman without hair would stand very small chance of marrying at all. With sexually limited inheritance the crop of hair on women's heads is thus perpetually kept up without being transmitted to their male offspring. Miss Andrews concludes that there are compensations in all things, and that while the "individual woman sometimes murmurs at the hard laws of dependence which force her too often to find in some measly little specimen of masculine humanity her only refuge from starvation, the sex in general has to thank the fastidiousness which their superior position cultivates in men for its exemption from a defect as destructive of beauty as of comfort." [Just what consolation, by way of "compensation" this may be to the individual woman is not stated.]

Mr. Bilkins—What a sad face that woman has  
Mrs. Bilkins—Yes, poor thing. She has either loved and lost, or loved and got him.

#### THE WAYS OF THE BACILLUS.

It is to the absorption and circulation within the system of intensely poisonous substances, elaborated by specific micro-organisms, that the particular disturbances of the animal system, which characterize zymotic diseases, must be traced. The action of these pathogenic bacteria may in fact be compared not to that of poisoning some one with, for instance, nux vomica; but it is as though the seeds of this poisonous plant could be introduced into the body of an animal, and there spring up into the plant itself, producing its poisonous materials within the system of the animal. In fact by introducing into an animal these organized poisons like tetanus or tuberculosis, we introduce not, strictly speaking, a poison at all, but a complete poison manufactory, or a piece of machinery which will elaborate deadly poisons out of the animal tissues and juices on which the machinery is thriving and extending its dimensions.

This is no fanciful picture at all, for in several cases the actual poisons produced by these parasitic micro-organisms have been both discovered and isolated. Thus Brieger has described substances which he was able to obtain from pure cultivations of the typhoid and tetanus bacilli. In the case of the typhoid growth, he isolated a material which he called typhotoxine, while from the products elaborated by the tetanus bacilli he procured a substance—tetanine—which, when injected into animals, produces characteristic tetanic symptoms and tetanotoxine, likewise obtained from tetanus cultivations, in employing which he was able to induce some of the symptoms accompanying tetanus. Brieger has also isolated a very poisonous substance from decomposing mussels, and other poisonous materials have been separated from putrefying cheese, etc.

#### DO ANTS TALK?

I one day saw a drove of the small black ants moving, perhaps to better quarters. The distance was some 150 yards. Most all which came from the old home carried some of the household goods. Some had eggs, some had what may have answered for their bacon or meat; some had one thing and some another. I sat and watched them closely for over an hour. I noticed that every time two met in the way they would hold their heads close together as if greeting one another, and no matter how often the meeting took place this same thing occurred, as though a short chat was necessary.

To prove more about it, I killed one who was on his way. Others being eye-witnesses to the murder, went with speed, and with every ant they met this talking took place as before. But instead of a pleasant greeting, it was sad news they had to communicate. I know it was sad news, for every ant that these parties met hastily turned back and fled on another course, as much as to say, "for the king's sake and for your safety do not go there, for I have seen a monster, just behind, that is able to destroy us all at one blow. I saw him kill one of our family. I do not know how many more are killed." So the news spread, and it was true. How was the news communicated if not by speech?—*Magazine of Natural History*.

QUANTITY NOT LOCALITY.—"Don't you think Mr. Twiddles is very absent-minded?" said a young woman.

"No," replied Miss Pepperton. "He displays admirable caution. What little he has he always brings with him."

#### ARROWROOT.

The arrowroot grown and produced in Jamaica is almost, if not quite, equal to that of Bermuda. The arrowroot starch comes from the tuberous roots, or, more correctly, root stalks of the *Maranta arundinacea*. The plant grows about two feet high, has branching stems, ovate lanceolate hairy leaves and panicles of white flowers. It bears a globular fruit about the size of a currant. The roots are often more than a foot long and are about as thick as a man's finger. They are jointed, almost white, and are covered with large paper-like scales. These roots sometimes curve so that the points come up out of the earth, and thus form new plants. The roots are dug up when a year old, washed, carefully peeled, and reduced to a milky pulp. Mills for this purpose are used in some places, but in Jamaica the roots are usually reduced by beating in deep wooden troughs. The pulp is then mixed with much water, cleared of fibre by means of a sieve of coarse cloth or hair, and the starch is allowed to settle to the bottom. The water dissolves and so removes the greater part of the albumen and salts, while the starch quickly settles down as an insoluble powder. Successive washings are employed for further purification. The arrowroot is finally dried in the sun, great care being taken to exclude dust and insects. The careful peeling of the roots is of the greatest importance, as the skin contains a resinous matter, which imparts a disagreeable flavor to arrowroot with which it is allowed to mix.

#### A TRIP TO A FIXED STAR.

Dr. David Gill, lecturing on "Fixed Stars," hit upon the following adroit method to illustrate the distance to Centauri:

"We shall suppose that some wealthy directors, for want of outlet for their energy and capital, construct a railway line to Centauri. We shall neglect for the present the engineering difficulties—a mere detail—and suppose them overcome and the railway open for traffic. We shall go further, and suppose that the directors have found the construction of such a railway to have been peculiarly easy, and that the proprietors of interstellar space had not been exorbitant in their terms for right of way.

"Therefore, with a view to encourage traffic the directors had made the fare exceedingly moderate—namely, first-class at a penny per 100 miles. Desiring to take advantage of these facilities, a gentleman, by way of providing himself with small change for the journey, buys up the National Debt of England and a few other countries, and presenting himself at the office, demands a first-class single to Centauri. For this he tenders in payment the scrip of the National Debt of England which just covers the cost of his ticket. Having taken his seat, it occurs to him to ask:

"At what rate do you travel?"

"Sixty miles an hour, sir, including stoppages," is the answer.

"Then when shall we reach Centauri?"

"In 48,663,000 years, sir."

THAT'S WHY.—"There's Bonely yonder, getting away with corned beef and cabbage and a plate of doughnuts. How can a man of his delicate build eat such a combination as that?"

"Hump! It's just the combination he's eating that gives him his delicate build!"

When Uncle Sam has taken the Sandwich  
I guess it's pretty safe to say,  
That there isn't on earth another land which  
Will ever dare to take it Hawaii.



## ANIMALS AS BAROMETERS.

If a cat sneezes, or sits in the fender, or washes her head behind her ear, it is a sure sign of rain. Before the approach of a storm cats have frequently rubbed themselves against some convenient object—very often the writer's leg. The goat utters a peculiar cry before rain. If rats and mice make much noise it indicates rain. If a dog eats grass in the morning it will surely rain before night. If a bull goes to pasture first it will rain; if the cows precede him the weather will be uncertain.

Sheep are known in Wales to ascend the hills and scatter themselves before clear weather, but if they bleat and seek shelter snow is expected. When a dog refuses to take meat it is a sign of coming rain. In stormy and cold weather cows often fail in yielding milk. If cattle lie down in early morning rain may be expected. Sailors do not like cats and they have a saying that when a cat is frisky she has a gale of wind in her tail.

When a dead calm becomes monotonous sailors have been known to throw a cat overboard to raise the wind. Hogs run with sticks and straws in their mouths before cold weather, and carry leaves to make warm beds. There is an old proverb that "pigs can see the wind," as they are restless and squeal loudly before a storm. The sailors call a stormy northwester a "cat's nose."—*Tid-Bits*.

## STORY OF A DREAM.

There was a group of business men who had met at their club and were discussing some serious and metaphysical questions of the day. One of them was a middle-aged man with a thoughtful visage and iron-gray hair. He heard the others speculating on transcendental theories with close attention and finally remarked:

"I had a strange dream last night—a very strange dream. If you promise not to laugh at me I will relate it. As a general thing I do not believe in dreams, but this was very convincing—very."

"Let us hear it," said his friends unanimously, "dreams often mean more than we can understand."

The dreamer stroked his chin thoughtfully, and finally began in the manner of a man who does not expect to be believed.

"It was impressed on me very strongly," he said, "at the time, for I had been annoyed that very day by having mislaid some tickets and suppose I carried the annoyance with me in my sleep. For I dreamed that I was looking for them and found them in a certain place in my desk where I was in the habit of keeping such things safely laid away in an envelope."

"It was so real to me that I could hardly believe it a dream. Now comes the strange part. As soon as I was fully awake I went to my desk and there was the envelope!"

He paused a moment, and some one breathlessly suggested:

"And you found the tickets?"

"No, there wasn't a blame thing in it."—*Detroit Free Press*.

JERUSALEM.—Teacher—Now, Teddy, is Jerusalem a proper noun or a common noun?

Teddy—"Taint neither. It's an ejaculation, mum."

NEXT, BUT FAR OFF.—Cleanliness is next to godliness, and some persons have an idea that because they are beyond cleanliness they must be godly.

## ADULTERATION.

## ADULTERATION IN MASSACHUSETTS.

The report of the examinations of foods and drugs in Massachusetts for February shows a total of 275 samples examined of which 168 were found to be of good quality and 107 adulterated, giving a percentage of adulteration of 38.9. The average ratio of adulteration is very much less than this, since it is suspicious articles of food to which the attention of the board is directed. Certain staple products such as sugar, flour, and the various other cereal products, are very rarely adulterated, and require but little inspection. The work of the Board is, therefore, mainly directed to the inspection of such articles as it has found, by several years of experience, to be especially liable to adulteration.

The ratio of samples of milk found to be adulterated was 66.0 per cent.

Samples of honey bearing the following label were found to contain 40 per cent of glucose: on one side "Pure Honey," on the opposite side "Extracted Honey, George D. Powell, 81 Third street Brooklyn, N. Y."

This last is the same brand which has figured prominently in almost every unfavorable examination of honeys. There are two or three of these concerns who supply nearly all the cheap grocery stores here in the East with so-called honey of about the quality described.

## SOLUBLE COCOA.

BEWARE OF SO-CALLED SOLUBLE CACAOS MADE SO BY SAPONIFICATION WITH CHEMICALS.

Much of the cocoa sold to the public contains added material, like starch and sugar, which though harmless in themselves, lower the percentage of the stimulating constituent—theobromine. Many foreign cocoas are treated with caustic potash (K.H.O.), which has the effect of rendering them more soluble. Pure cocoa has the following composition:—

Water,	. . . . .	6.1
Theo-bromine,	. . . . .	1.4
Fat, . . . . .		50.1
Starch, . . . . .		10.0
Albumen, . . . . .		18.3
Gum, . . . . .		7.4
Coloring matter, . . . . .		2.6
Fibre and allulose, . . . . .		.4
Mineral matter, . . . . .		3.7
		100.0

Theo-bromine is a vegetable alkaloid allied to theine of tea, and caffeine of coffee. It acts as a stimulant to the nervous and circulatory systems, hence a cup of pure cocoa has a most exhilarating effect on the mind and circulation, quite apart from its food value. The amount of fat is very high, and part is usually extracted during the manufacture of cocoa. It is often spoken of as "cocoa butter." It is about the consistency of tallow, and has a decided aroma. The percentage of flesh-forming material (albumen), is also very high, so that cocoa may be regarded not only as a stimulating beverage, but a valuable food.

Only a very small portion of cocoa is soluble in boiling water. What is formed really is a fine mixture of cocoa particles and water. The solubility may be increased by treating the cocoa during the process of manufacture with caustic potash, but there is a decided objection to this method as the chemical is injurious to the body.

The best cocoa, however, is so carefully manufactured, that a perfect mixture is obtained, which, by the sense of touch, is with difficulty distinguished from a solution, so that often the term "soluble" is applied to cocoa in this sense. The adulteration with foreign starch may easily be detected by one skilled in the use of the microscope. If cocoa thickens very much in the cup on the addition of boiling water, adulteration with starch may be suspected.

## CARBONIZED PEPPER.

A Western company manufacturing graphite paint tells us of a recent inquiry for a price on a large amount of graphite. It is not the custom of the concern to sell its raw material, and an investigation was made as to the use to which the graphite was to be put. The inquiry was found to proceed from a company having a close business connection with a jobbing house that does a large business in black pepper. The era of sand-ed sugar and chicoried coffee has evidently given place to the day of carbonized pepper.—*Iron Trade Review*.

## ADULTERATED SNUFF.

The Correctional Court at Rouen, France, sentenced a young man who had been convicted of adulterating snuff to eight months imprisonment and a heavy fine. He made his snuff on the following receipt: Three parts powdered spent tanbark to one part powdered roasted apples, moistened it with ammonia and flavored with oil of rose geranium.

## CACAO OIL.

Cacao-butter is the fat contained in cacao-beans and must not be confused with cocoanut oil from *cocos nucifera*.

Cacao-butter is expressed from cocoa in the process of manufacture, and by far the larger quantity used in the United Kingdom is the produce of one firm. It is used in pharmacy; for the production of some kinds of chocolate, and in the manufacture of high-class soap. Cacao-butter is liable to adulteration with or substitution by other fats, and it is said that the cacao-butter is sometimes very completely expressed from cocoa and replaced by tallow, cocoanut oil, or other comparatively cheap fat.

A careful observation of the physical and chemical characters of cacao-butter will allow of the detection of fats, if present in any considerable proportion.

Pure cacao-butter is a yellowish fat, gradually becoming paler on keeping. At the ordinary temperature it may be broken into fragments, but softens in the hand and melts in the mouth. Cacao-butter has an agreeable odor, tastes like chocolate, and does not readily become rancid. It dissolves in 20 parts of hot alcohol, separating almost completely on cooling, and is also soluble in ether, acetic ether, etc.

Cacao-butter owes its value for pharmacy to the fact of its having a melting-point slightly below the temperature of the human body (98 deg. F.=36.6 deg. C.) According to most observers, it fuses between 30 and 33 deg. C. (rarely at 26 deg.) to a transparent yellowish liquid, which congeals again at 20 to 21 deg., the temperature rising to about 27 deg. C. According to the *British Pharmacopoeia*, the melting point of cacao-butter ranges between 30 and 35 deg. C. (86 to 95 deg. F.).

The specific gravity of sound cacao-butter is



variously stated. The author found the plummet gravity at 98 deg. C. to be 0.8577. Any admixture of paraffin wax would reduce this figure. Cocoa-nut oil would increase it.

Foreign fats in cacao-butter tend to alter the foregoing characters, but observations of the melting point and specific gravity do not usually furnish satisfactory means of detecting such mixtures. Tallow is said to be capable of detection by saturating a cotton thread with the oil, allowing it to burn for a short time, and then blowing it out, when the odor of tallow becomes perceptible.

A better test for tallow and other adulterants of cacao-butter is to dissolve 2 grammes of the fat in 4 grammes (=5.5 c. c.) of ether at 17-18 deg. C., and then immerse the closely corked test tube in ice-cold water. Granules will separate from, or turbidity produced with, pure cacao-butter in not less than three and more frequently in from five to eight minutes, sometimes delayed ten or fifteen minutes; while if tallow or suet be present, a turbidity will appear at once, or within two and a half minutes, according to the proportion of the adulterant, of which 5 per cent may thus be detected. On exposing the solution to a temperature of 14 to 15 deg., it will gradually be clear again, or more rapidly at 20 deg. if the cacao-butter was pure, but not if it was adulterated. With a sample containing 5 per cent of tallow, turbidity occurs in eight minutes, and the solution does not become clear below 22 deg.; while with 10 per cent of tallow, the turbidity occurs in seven minutes, and the clearing point is 25 deg. C. This test is due to Bjorkland and is adopted in the *United States Pharmacopœia*. Its value has been confirmed by other observers, of whom Lamhofer has pointed out that petroleum ether may be employed with similar results, except that the cacao-butter separates rather more slowly than from ether, the deposit being always granular, while other fats render the entire liquid cloudy. The solution of cacao-butter in two parts of ether will remain clear for an entire day if maintained at a temperature of 12 to 15 deg. C. This modification of the test is prescribed by the *German Pharmacopœia*, and is due to Ramsperger, who states that aniline may be substituted for the ether. Filinger has described the following modification of the ether test: Two grammes of the fat should be melted in a graduated tube with 6 c. c., of a mixture of four volumes of ether (sp. gr. 0.725) and two volumes of alcohol (sp. gr. 0.810), shaken and set aside. Pure cacao-butter gives a solution which remains clear.

According to E. Dietrich, a very reliable test for the purity of cacao-butter consists in warming the sample with an equal weight of paraffin oil. A drop of the mixture is placed on a slip of glass, a thin cover applied, and the slide exposed for twelve hours to a temperature not exceeding 5 deg. C. When then examined with polarized light under a magnifying point of 20 diameters, the crystals of cacao-butter present the appearance of palm leaves, showing a fine play of colors with selenite. An addition of 10 per cent of beef-tallow causes the fat to crystallize in tufts of needles, or circular groups of crystals which exhibit a black cross; while if mutton tallow be the adulterant, it is stated that no cross can be seen.

#### DEATH IN CHICAGO WATER.

ANALYSIS PROVES THE CITY'S SUPPLY A SOURCE OF POLLUTION—REPORT OF BRITISH COMMISSIONERS WHO EXAMINED THE STUFF FAIR VISITORS WILL DRINK—REFUSE AND ANIMAL MATTER IN IT.

The report of the commissioners sent by the

*Lancet*, the leading medical journal of Great Britain, to make an examination regarding the sanitary condition of Chicago, with a view to the better information of British visitors to that city during the coming fair, states that all the samples of Chicago river water examined showed an appalling pollution by animal refuse indiscriminately mixed with common sewage.

The pollution begins at the mouth of the Chicago river, and increases until the maximum is reached in the vicinity of the stock yard near the southern branch of the pumping station, where the filthy conditions defied description. At certain points the condition of the Chicago river was worse than that of crude sewage. The smell was vile and nauseating.

The temperature of the Chicago river water varied from 33 deg. Fah. at the mouth of the river to 44 deg. at the stock yard, while the temperature of the air did not exceed 24 deg. It was safe, therefore, to conclude, the commissioners say, that the condition of the Chicago river in summer would be more abominable.

The analysis of the water of Lake Michigan failed to furnish any distinct evidence of serious pollution. In dealing with the domestic supply the report emphasizes that it is desirable to filter lake water for drinking, since not a single sample of the ordinary supply is entirely free from sediment, which in the majority of instances consisted of vegetable debris.

"Numerous organisms, chiefly of the kind peculiar to pond water, were found," says the report. "In a sample representing the water supplied to North side residents dead water fleas were found floating.

"Two samples had been through filters; nevertheless, these were bad, if not worse than the ordinary unfiltered supply. The explanation of the anomaly was not far to seek

"It was customary apparently at all seasons of the year to float pieces of ice in the drinking water; but no discretion was exercised in the choice of pure and safe ice. The examinations made distinctly indicated impure ice melted in the water after filtration.

"The ice of the lake naturally contains matter suspended in the water at the time of freezing, and also particles floating on top of the water. It is liable to very serious pollution so long as the vilest refuse of the city is thrown into the lake, but the analysis made does not prove that this has hitherto caused mischief."

As regards the sources of the water supplied from Waukesha to Washington Heights they are less well adapted for ordinary washing and manufacturing purposes, but in respect to organic purity they are equal, and probably far superior, to the ordinary supply. In view, continues the report of the character of Lake Michigan water it is suicidal to run the risk now being run of seriously polluting so unlimited a pure supply by an ugly dumping process. There are more rational, more wholesome and more effectual means of disposing of sewage and refuse. These need never be discharged into the river in a raw and crude state as they are now.

The *Lancet*, in commenting on the report, counsels visitors to use no water but that which has been boiled and filtered, and concludes:

"The statistics in our possession show that Chicago suffered from typhoid fever nearly eight times as much as London in 1890, and nearly twelve times as much as London in 1891.

"To our own people we commend in the strongest terms the advice to drink no water which has been cooled in contact with ice. To the people of Chicago we appeal to provide a water supply free from this reproach."

MOUNT STROMBOLI.—The volcano of Stromboli, in the Eastern Mediterranean (about sixty miles north of Messina) is much less accessible than Mount Vesuvius, but can boast one of the few incessantly active craters of the present universe. Unless busied in the concoction of lava-streams, it emits puffs of flaming cinders, at regular intervals, and with a wheezing sound resembling the snort of an old steam engine. Once in two or three years it indulges in a first-class eruption, and just now its whirls of black smoke can be seen plainly from Monteleone, on the east coast of Italy.

A CHINESE PROVERB.—A druggist who buys and sells drugs should have two eyes, a physician who gives drugs to patients should have one eye, and a patient who takes drugs should be blind.

HER STANDING.—Quiggs—How does Bertha M. Mudde rank as a novelist?

Publisher—About as rank as any of them.

NO WONDER HE SWORE.—Mrs. Fussy—Dear! dear! I wonder what makes the parrot swear so?

Mr. Fussy (who has his own views on the subject)—I suppose he has picked up the remarks that the neighbors make about him

A GOOD EXCUSE.—Judge—Why didn't you give the purse to the police when you found it?

Prisoner—Because it was late in the evening.

"But why didn't you give it on the following morning?"

"Because there was nothing in it then."

JOURNALISTIC ITEM.—"You're a nice editor, Chubbs."

"What's the matter now?"

"Why, you say the editor of the *Daily Voice* is an unmitigated ass."

"Well, he is."

"But you add: 'We advise our brother journalist to reform his stupid ways.'"

## BOOK REVIEWS.

### AN INTERESTING PAMPHLET.

The passenger department of the New York Central and Hudson River Railroad Company have just issued a handsomely illustrated and most interesting pamphlet under the title, "The Luxury of Modern Railway Travel." Copies may be had gratis from any of their offices. We quote the preface:

If the testimony of great travelers from every nation on the globe is to be accepted, the passenger service of the New York Central and its connections is nearly perfect. The through trains of these great lines furnish practically all the luxuries of home or club, and make a journey of a thousand miles a restful pleasure.

In view of the fact that in 1893 thousands of people from other lands will visit the United States for the first time, to whom our passenger trains will be as strange as is our country, and that other thousands from the West, Northwest, and Southwest will, in a flying trip to the East, find present transportation facilities as different from those of their boyhood days as the Chicago of 1893 is different from the Chicago of 1871, a brief description of the luxury of modern railway travel, as illustrated by the New York Central and connections, cannot be amiss.



## THE AMATEUR SPORTSMAN.

Anglers will find the April number of the *Amateur Sportsman* a valuable and interesting paper. It contains a list of nearly four hundred streams, within short distances of New York City, where good trout fishing can be had. It gives the location of streams, tells how to get to them, distance from New York City, fare, etc. In addition to the above this number contains the open season for trout fishing in all the States, hints on trout fishing, the best ways to cook trout and several interesting articles on trout fishing. A copy of this paper can be had by sending ten cents to the *Amateur Sportsman* Company, 6 College Place, New York.

## THE CALIFORNIA MAGAZINE.

The *Californian* for May completes the third volume of this popular magazine, and is well up to the standard in variety and excellence.

## GOOD HOUSEKEEPING.

*Good Housekeeping* for May has standard papers from such writers of national reputation as Miss Parloa, H. Annette Poole, Architect E. C. Gardner, M. J. Plumstead, Hester M. Poole, Helena Rowe, Mrs. Oliver Bell Bunce, Ruth Hall and others; with verse to match, an abundance of minor articles, choice selections, wholesome diversion for the curious and the little folk. The course of this steadily prosperous publication shows that it is entirely possible to merit and win success by adhering to the good old-fashioned way of giving sound, sensible value for the money, without resorting to the catch-penny devices which have become so common in the publishing world of late. Each number, also, has a fine piece of music, new, fresh and popular, well worth the subscription price of \$2 a year. Clark W. Bryan Company, Springfield, Mass.

SEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF OHIO, 1892. We have just read

the advance sheets of this report. These are largely taken up with sanitary matters in the State, especially preventive measures for the cholera. The portion relating to food products is not included.

We are indebted to Dr. C. A. Lindsley, secretary of the Connecticut State Board of Health for a copy of the annual report of that board for 1892.

## A REMARKABLE OFFER.

It requires no extravagant language to emphasize the offer which we make to-day to our readers in connection with the greatest educational enterprise of the age.

This offer stands without parallel and is an opportunity never before presented anywhere. As announced on another page, 10 cents a day for a very short period will enable our readers to acquire a complete set of that greatest of all Reference Libraries, the Revised Encyclopedia Britannica. This work is beyond question one of the grandest monuments of scholarly research and patient endeavor in the whole realm of literature.

The first edition of this comprehensive work was published more than a century ago, and the last or ninth edition was issued about fifteen years ago. In this revised edition, the Britannica has been condensed, revised and added to with the intention of adapting it especially to the needs of American readers, and at the same time bringing it within reach of the purses of many who could not possibly obtain the original work.

In the process of condensation, superfluous matter has been taken out in order to make room for a large amount of matter not to be found in the first edition, dealing with most important American affairs. This Encyclopedia which we have the pleasure of offering to our readers is the Revised Britannica complete in 20 octavo volumes of

over 7,000 pages; 14,000 columns and 8,000,000 words, printed on a fine quality of paper, from new type, and is strongly bound in heavy manilla paper covers, which with proper care will last a lifetime.

The most wonderful fact in connection with our offer is that we send the entire 20 volumes with all charges prepaid, on receipt of only \$1.00, and allow you to pay the other \$9.00 at the rate of 10 cents a day for 90 days, payable monthly, thus placing it within easy reach of everyone.

To encourage your children in habits of economy, and for that noblest of all purposes—economy for the sake of an education, we send with each set a dime savings bank wherein a dime can be deposited each day. This is certainly a golden opportunity and one which our readers should take advantage of at once as the offer will continue for a limited period only.

A DEAR FRIEND.—Morgue Keeper—Looking for anyone?

Visitor—Oi'm lookin' fur me dear friend, Moike Moolighan, who's mysteriously disappeared. It ud break me heart to foind him dead. Oi loved that mon like a brother.

"Has he any marks by which you could identify him?"

"Yis, he do have a big scar on his forehead where Oi hit 'im wid a brick."

"Greene Bayes has failed abominably in the law. Wonder what he'll do now?"

"Oh, he's all right. He has influence enough to get on the bench."

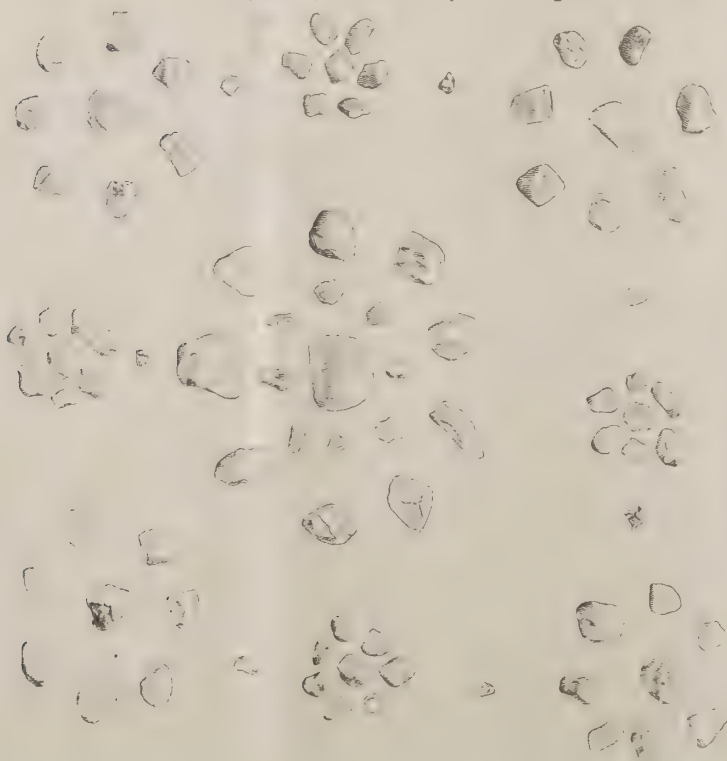
Buckton—He is very learned, you say. Is he proud of all he knows?

Nendick—Oh, no; he is an agnostic, and proud of all he doesn't know.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia. PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alambic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## AN IDYL OF SPRING.

"The worst cold is a spring cold" is at least as true as most old sayings are, though the badness of all colds is such that, to the immediate sufferer each is likely to seem "the worst." But it is at least beyond question that spring is the season most prolific in colds. The sudden atmospheric changes, when the weather clerk tries to give us, in a single day, samples of his entire stock; the imprudences to which we are tempted by throwing off our heavy underwear; sitting by open windows; forgetting our overcoats; getting our hair cut on a sunshiny afternoon and going home the same evening in a snow storm, and riding in open street cars with which the railway companies "rush the season" are customary causes for colds which sad experience has taught us we must run the gauntlet of every spring. But to those already ample dangers many thousand of us will this season find a new lot added when we make our contemplated pilgrimage to Chicago. The pernicious energy of the fresh-air fiend who persists in opening beside him the car window, indifferent to the draught upon those behind him; the overheated, steamy, breath-laden atmosphere of the sleeping cars and the transitions from heat to cold inevitable in sight-seeing among the various buildings of the World's Fair, will constitute real dangers to the laryngeal, bronchial and pulmonary apparatus of the public and one who, exposed to them, still escapes may well consider himself exceptionally lucky. Accepting it then as something exceedingly probable that you will find yourself in possession of "a spring cold," be



tions on each package—every grocer has it—and germs cannot live, dirt cannot stay, and the hard work, the drudgery, is done away with.

## Beware

send it back.

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, if your grocer sends you an imitation, be honest—JAMES PYLE, New York

## Sympa—

Bah! A woman doesn't deserve any sympathy, when the knowing better is so easy and the doing better is so cheap. Think of inhaling the steam and odors from a tub of dirty clothing, perhaps from the sick room, perhaps much soiled from honest labor. Think of the weak lungs, and throat, the germs of disease, etc., etc. It's all so unnecessary and so ineffective. The clothes are not as clean (surely not as pure) as they ought to be, when the work is done. Boil your clothes in Pearline and water—direc-

# A Tonic

For Brain-Workers, the Weak and Debilitated.

## Horsford's Acid Phosphate

is without exception the Best Remedy for relieving Mental and Nervous Exhaustion; and where the system has become debilitated by disease, it acts as a general tonic and vitalizer, affording sustenance to both brain and body.

Dr. J. C. Wilson, Philadelphia, Pa., says: "I have used it as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

warned in time not to attempt the folly of "letting it run its course" and "get well of itself." It may do so, if the weather comes all right and personal conditions are remarkably favorable, and you have patience to wait and suffer an unnecessarily long time, but the chances are at least equal that it may develop into some very serious bronchial or pulmonary affection, the end to which will be the cold and the sufferer "going off" together. Bronchitis, which may give you intense agony in its "acute" form, or become "chronic" and hang to you, recurring periodically for years, is simply a neglected cold. Pleurisy which inflicts pain hardly second in degree to any known by suffering humanity, is a common resultant from a neglected cold. Laryngitis, which keeps its victim coughing until exhaustion and pain make life seem a weariness and death a boon, is a common phase of a neglected cold; and pneumonia, swift and terrible scythe of the death angel, is always the violent outcome of a neglected cold. Do not neglect your cold. Treat it at once. Stop it. Fortunately, this is seldom difficult if you go about it in the right way, and remember that whatever else you may see fit to do, an absolute essential to your successful treatment must be the taking of Ayer's Cherry Pectoral, in the minute but potent doses prescribed by its accompanying directions. It is not simply a temporary alleviant of the inflamed and congested tissues which keep you coughing and discharging phlegm and mucus—painful to yourself and annoying to others—but is a powerful remediant, extending its beneficial action to the deepest seat of your trouble, curing bronchial and even pulmonary affections. If you propose going to the World's Fair put down Ayer's Cherry Pectoral on the list of indispensable things you must take along and have ready for immediate use whenever occasion arises—as it is sure to—for its employment. Very many physicians habitually prescribe this remedy in their practice and it is safe to affirm that all who have once done so have continued its administration. For the treatment of children it is especially valuable as it is safe and pleasant, as well as surely curative.

## BUSINESS NOTES.

### HOW'S THIS?

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

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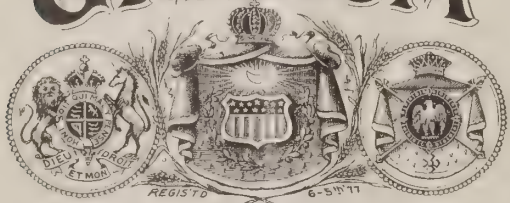
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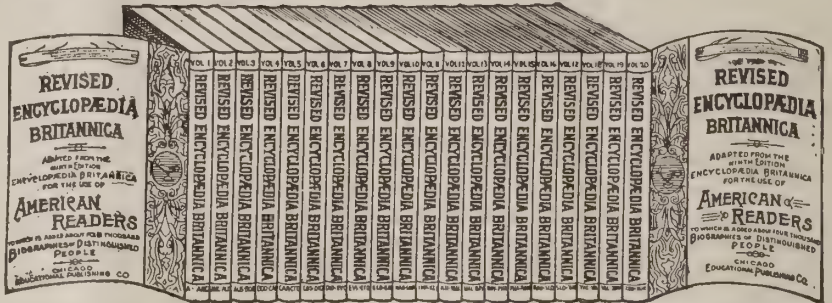


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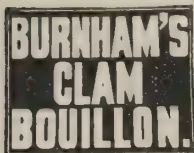
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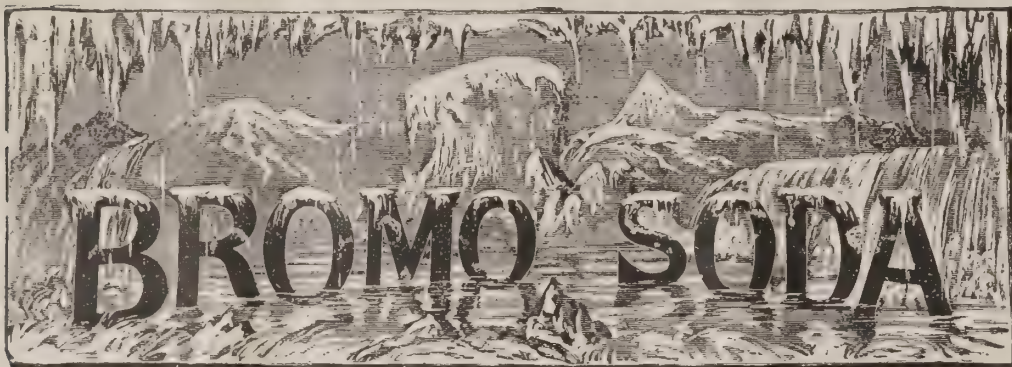
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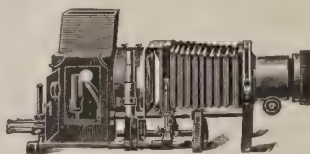
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PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

MAY 15, 1893.

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### CAPITAL PUNISHMENT.

Public opinion is very fickle and is influenced largely by what seem to be trifles. Frequently a single fact will offset many opinions. The *Journal of Commerce*, in an article on this subject, puts it forcibly thus:

In this State several bungling executions of criminals upon the gallows brought about a change of the method and led to the adoption of electricity as the deadly agent. The exhibit at the first trial of this new mode was so unsatisfactory as far as the public reports represented it that there was a revolution in public sentiment, and it would have required very little pressure at that time to restore the old-fashioned system of death by the rope. The subsequent executions were less repulsive, it is said, but the minds of men became exercised over the few details contained in the official statements, and this led to the inquiry whether the death penalty in any

form was not a barbarity that ought to give way before the advance of Christian civilization.

Nearly all the recent discussions have resulted in weakening the hold which capital punishment has had on the minds of its most stalwart defenders, and few were startled at the prediction so publicly made a few days since that in less than two years the death penalty would be abolished in the State of New York. The argument in favor of a milder sentence was based chiefly on the difficulty of securing from any twelve men serving upon a jury a unanimous verdict that would involve the life of the culprit whose fate was in their hands. This reluctance was so great that often there would be either no agreement or a verdict would be rendered for a lesser degree of crime than was justified by the testimony before the court. It was difficult to obtain a jury upon any terms in a capital case, and then a still greater difficulty to secure a verdict that carried with it the sentence of death.

It is not a little singular that the State which had made, as was believed, the most successful departure from the ancient usage, is now facing the probability of a return to it under the reaction of public opinion carrying with it a large majority of the people. In Michigan many years ago imprisonment for life was substituted for the gallows as the penalty for murder in the first degree. For a while there appeared to be an improvement along the whole line of administration in the trial of the more desperate class of criminals. It was less difficult to obtain a jury, trials were more speedily concluded, and unanimous verdicts were commonly rendered. It was often said that "there were fewer miscarriages of justice in Michigan than in any State where the death penalty was enforced."

How long this lasted we are not prepared to say, as there is a decided disagreement among the authorities we have consulted. It is certain, however, that during the last few years all that was gained by the change appears to have been lost, and the respect for human life among the criminal classes seems to be materially lessened by the mildness of the punishment in capital cases. Our elder readers will recall, we trust with some distinctness, our own strongly expressed convictions concerning the ultimate effect on the minds of evil disposed persons of this substitution in the nature of the punishment. We did not see how it could be otherwise. We have listened to the oft-repeated assertions of prisoners sentenced to imprisonment that they would much prefer to be hung, but we never met or heard of one who was sentenced to the gallows to whom a commutation of the sentence did not come as a much desired boon. A lifelong residence in a penitentiary would be accepted always as a great relief by one who was facing the gallows or the electric chair.

We urged in our former discussions the question concerning the possibility of a repetition of the crime during his imprisonment by one who was suffering already the extreme penalty of the law, and received no satisfactory reply. The utmost that was urged by any one who favored

the new theory was that it would be possible to guard in the confinement of one under the modified sentence against the opportunity for a further like offense. We could see no assurance of safety in this suggestion. One who was convicted of murder might be a model prisoner and submit with patience to the milder penalty imposed. But it was more than likely that he would be subject to outbursts of passion, that he would resent wholesome restraint, and that when there was no motive from fear for better conduct he might seize a fitting occasion and perpetrate a second murder, or even a greater number, without any possibility of preventing it, unless he was kept in a straight jacket to the end of his days.

The very case suggested in our inquiry has now actually occurred. A notorious criminal named Latimer, suspected of having poisoned his father, and proved beyond all question of being the murderer of his mother, whom he killed in the most deliberate and brutal manner, was undergoing the life sentence. He planned to escape from his confinement by administering prussic acid to his keepers, with whom he had established an intimacy, as he confessed, for this very purpose. One of them, named Haight, died at once from the dose administered. The other, named Gill, was too sick to restrain the prisoner, who made his escape. He was discovered and has been restored to his cell, but can be made to suffer no further penalty. If the law should now be changed in Michigan and the gallows become once more the award for murder, it would not affect this man's sentence. The moral is obvious, we think, and our old-time discussions of the theme may now be read as the fulfillment of a prediction it needed no prophet's mantle to justify, the result at some time in the future was so absolutely certain to become history.

### CIGARETTE VICTIMS.

Cigarette smoking has claimed another victim in the person of John De Bowes, the 16-year-old son of John De Bowes, of 78 Beach street, New Haven. De Bowes was an employe of the New Haven Clock Company. He complained of feeling bad, saying that he had a severe headache, but his illness was not thought to be of a very serious nature. He remained at home all day, and refused to touch food until about 4 o'clock in the afternoon, when he ate a slight lunch. Soon after he became worse, and about 11 o'clock he died. Medical Examiner White was summoned, and, upon making an investigation, he gave as the cause of death congestion of the lungs, gastritis and cigarette smoking. De Bowes was addicted to the use of cigarettes, smoking them almost continually, and it is supposed that he caught a slight cold, which settled into a case of insipient pneumonia, and his heart having been so weakened by the use of cigarettes it was unable to stand the strain which the two other cases engendered and death was the result. Cigarette smoking is given in the death certificate as being the primary cause of death.



## MEDICAL.

### SHOES AND PNEUMONIA.

An English physician claims that the increase of pneumonia among men is to some extent due to the falling-off in the use of legged boots, as the ankles, where many severe throat troubles originate, are now more exposed to the cold weather. It may well be asked who shall decide when doctors disagree. Some of the medical fraternity hold that ankle straps are good for children, inasmuch as they allow plenty of air and ventilation about the ankle, while others maintain that some support is needed. Others say that the sandal is the most natural form of foot-covering, while lecturers on the anatomy of the foot recall the age when boots were not worn at all as that in which the most perfect feet were found. If it can be shown that the use of shoes instead of boots is responsible for a spread of pneumonia, then the young ladies of the present day are inviting consumption and all other diseases of the respiratory organs, because, of late, they have displayed a strong preference for shoes, simply because they are smarter, display a fine ankle to greater advantage than boots, which are not unfrequently baggy at that part, and when ill-fitting present a most untidy appearance, says the *London Journal*. Medical men have condemned the use of corsets and narrow-towed boots for years, but their outspoken condemnation of these articles has not decreased their sale one bit; nor will this questionable discovery about the relationship between low shoes and pneumonia make the least alteration to a retailer's business. People will have what suits them, and while doctors continue to disagree upon questions as to the relative value of low shoes and high tops, little notice can be taken of their contentions.

## HYGIENIC.

### OBESITY AND FOOD.

#### DANGER OF FAT AND HOW TO AVOID IT.

[Dr. Mary T. Bissell in *New York Press*.]

How to reduce the weight of the body is a question that bears heavily upon the souls of many people, for reasons as varied as are the individuals. With some persons it is a matter of health, with some a question of good looks and with others a matter of comfort.

It is a fact that every individual is, in respect of adipose, a law unto himself; that is, he has his own average weight which is with him a sign of health and well being. Above this he does not commonly go far without discomfort, and below it he cannot sink far without some impairment of health.

The very thin person is commonly at a disadvantage in the event of illness or a long continued strain. The reason is that fat is one of our reserve tissues upon which we draw for food in case of need, as in the drain of illness. By so doing we spare the master tissues of the body—the muscles, the nerves and other organs. But if this reserve fund is a limited one, as is the case with these persons, the more important organs are called upon for nourishment, and it is also noticed that with persons who have nervous exhaustion, the general renewal of health consequent upon rest and medical treatment coincides with a gain in adipose.

#### THE VALUE AND DANGER OF FAT.

These and similar facts indicate that fat has an important office in the body. Too great an amount

of this tissue is, however, undesirable from many points of view, and very often coincides with a lowered instead of an exalted vitality, as well as with discomfort.

It is well known to physicians that many extremely stout persons are also very anæmic, the undue amount of fat seeming to appropriate an undue share of the body's oxygen, leaving to other tissues less than their rightful share.

In such persons the heart is often weakened, and the muscles are feeble, so that part of the treatment consists in measures that shall restore these organs to their normal vigor, as well as in rules for a diet that shall not only reduce the fat present, but that shall likewise prevent its reaccumulation.

The frequency, indeed, with which excessive fat is associated with general weakness is the basis of one of the recent famous obesity cures of Germany, viz., the Oertel and Schmeninger cure, in which exercises that shall increase the heart's vigor are regarded as necessary a part as is the limit and scientific regimen of the table.

Slow but prolonged walks, short but gradually increasing mountain ascents, and other forms of exertion that call upon the heart, are regularly prescribed by these physicians, and, we are assured, with the best effect.

#### WHY THE BANTING SYSTEM FAILS.

It would be impossible, in the limits of this article, to lay down any one complete system for reducing adipose, because every case should be treated individually. Only when this is done can any great reduction in weight go on.

It is known, for instance, that Bantingism has resulted in many instances most disastrously to some who undertook to follow Banting's dietary. Those persons were physically unfitted for the deprivation of certain articles which are not allowed in his list, and many fell from his hands into those of the general or the special practitioner who was called upon to treat the nervous exhaustion that resulted from an inadequate diet.

It is necessary to remind ourselves of these facts occasionally, because great evils may result from following out any reducing system without proper advice, and neither Bantingism nor any other system should be recommended carelessly.

#### THE ONE SAFE RULE.

There is one point in which all systems agree, and which is, in the main, a proper one for all obese persons who have reached middle life.

This point is that of a reduction in the total quantity of food taken during the day.

Every dietary has its own line of special reduction; that is, one will give less fats than another, or a second will reduce the starches and sugars far below those of the next system. But all alike agree that less food, in toto, is to be taken.

#### THE PERIOD OF "LESSENED NEEDS."

Now as many of the cases of obesity occur at or during the period of middle age the fact of a reduction in quantity will safely be accepted by all such persons for the reason that it is perfectly physiological.

We know that the body has then stopped growing, that it is fully matured in every part, and so, while it must maintain itself in energy, it need add no new tissue or develop no new organs; therefore its food needs must be less than in the earlier years of life.

It is probable that ignorance of this fact of "lessened need" is responsible for much undue increase in weight at this period, and that what should seem very trifling excesses in the aggregate manufacture many undesirable pounds of flesh.

It is estimated, for instance, that a person eating only one-half ounce of sugar daily in excess of his needs, would thereby add eleven additional and unnecessary pounds to his body weight in the course of the year; yet how trifling and unnoticed is this excess and how easily indulged in by all lovers of sweets.

#### THE FAT FORMERS.

As to the role of different food stuffs in inducing obesity all observers and scientists are agreed that the carbohydrate class (the sugars and starches) are peculiarly liable to prove fat-formers.

Therefore every dietary for the obese contains a low proportion of these. It is well known that potatoes, starch, refined white flour and a few other articles are principally starch and water, containing only traces, in some cases, of the albuminous elements, and these are particularly tabooed for stout persons except in very limited quantities.

#### EATING FATS.

Fats are admitted in fairly generous amounts by one of the scientific German observers, contrary to the practice of some others, but on excellent grounds.

He claims that by taking fat the individual can exist comfortably upon a lower diet than he could otherwise, since fats give a feeling of satiety, and after eating them one cares less for other articles. This is Ebstein's theory, and together with our knowledge of the important role that fats play in the body it seems a very plausible one.

It is, of course, untrue that fats go immediately, upon entering the body, to the formation of bodily fat.

On the contrary, we know they are first entirely broken up, and that this mechanical breaking up results in heat and force and that some of these atoms are reconstructed into different tissues, such as fat itself, but not that exclusively.

#### THE OBESE AND ALBUMINOUS FOOD.

Albuminous food will also form fat to some extent, but the great value of an albuminous diet is the influence it has in increasing tissue changes, and in stimulating the body to perform its various chemical and vital activities.

All the processes that are continually going on within the body, by which worn out material is thrown off and new tissues evolved, the rapid blood-making power and the high nervous force, are especially increased by albuminous food, and therefore it is this element which always remains in greater proportion in dietaries for persons who are overburdened with adipose.

In such persons the waste is generally not well carried off, oxygen is not quickly enough absorbed or in sufficient quantity, and the albuminous elements will assist and force these deficient processes.

Voit, a well-known German scientist, says that the body will decrease in weight if the daily food consists of the following proportions, viz., albumen 4½ ounces, fat 1½ ounces, carbohydrates 5½ ounces.

#### DIFFERENT DIETARIES.

The following comparison of the different dietaries will illustrate some of the principles followed out in constructing such dietaries:

	Albuminates.	Fats.	Carbohydrates.
Banting.....	6 oz.	½ oz.	2¾ oz.
Ebstein.....	3½ oz.	3 oz.	1¾ oz.
Oertel.....	5½ 6 oz.	1-1¼ oz.	2½-3½ oz.

While the Banting dietary, therefore, allows a large quantity of albuminates, it gives too little fat, and this loss is very much felt by many persons.



The Ebstein dietary makes good this loss, but the amount of the albuminates is rather low for many individuals.

The Oertel formula seems rather a healthful reduction.

All of these have reduced the starches to a minimum. Banting gives only about one-fifth as much as is taken in a normal diet, the others even less.

So the opinion of all is agreed as to the necessity for marked limitation.

On the other hand, all of the dietaries agree as to raising the amount of albuminates above the normal, so as to support the body while it is undergoing the loss of other articles.

#### SHALL STOUT PEOPLE DRINK WATER?

The question as to whether stout people should or should not drink water is very much debated.

Some have decided in the negative. They claim that by reducing the ingoing water the system would be forced to appropriate what it needed from the food as well as from its own tissues, and in that way the object sought would be promoted.

On the other hand, we know that water assists in washing out waste materials, and that especially those who are at all gouty in their tendency are much harmed by curtailing their supply of fluid.

In general it is better for obese persons to avoid drinking much fluid with meals, but it may be taken in moderate quantities between meals.

The diet, then, that is most generally useful in reducing obesity is one largely confined to albuminates (lean meat, chicken, fish, etc.), with a very small proportion of rice, white bread or potatoes, and the proportion can be safely reduced if a fair amount of fat is taken at the same time.

It should be distinctly understood, however, that when any considerable reduction in weight is necessary, medical advice should be obtained in order that the individual needs and weaknesses may be kept wisely in view. Otherwise much harm may be done.

The necessity for exercise as an adjuvant to this treatment has already been referred to and should also be wisely prescribed as the same amount or rules will by no means apply to all.

#### DOLEFUL AND CHEERFUL.

Do you know the doleful person? asks the *Omaha World Herald*. She, for the doleful person is always a woman, is always a good neighbor in health, and tries to be neighborly in sickness. But she makes a miserable failure at the latter. You know how she acts. Don't you remember the last time the baby was sick? After you had watched by the little one's bed day after day and night after night, and watched the roses fade from the loved one's cheek, and saw the little one's form waste away? And don't you remember how she tried to cheer you up with a one-sided conversation, something like this:

"Why, Mrs. B—, how much worse the baby looks this morning. She looks just like Sarah Jones' baby did the night before it died.

"Gracious! I never saw a child so wasted away as Sarah's was, except yours. We just done everything for the child, but it wasn't no use.

"I will never forget how Sarah took on at the funeral?"

And the doleful neighbor suddenly remembers that she has to run back home to "set a sponge," and when she goes you hope she will never return.

You look again at the suffering babe and feel that your heart must surely break.

But suddenly there is a knock at the door, and in comes the—well, sunbeam neighbor is as good a name as any. She was over the evening before and quietly and unobtrusively helped to do so many needful things, and when she left she left a word of cheer. And when she comes this time she says something like this:

"Why, how much better the baby looks this morning!"

And don't you remember what a bright gleam of hope crossed your mind?

"I never saw a child improve so much in so short a time before. I am sure the baby will soon be well."

And then the sunbeam neighbor rearranges the bed, adjusts the blinds, tells you she will call again in a few hours, and hurries home.

Honest, now, didn't she leave a confident feeling behind her? You felt better and more hopeful. Baby, even, seemed to rally under the words; and when at last the little one was playing around your knee again, didn't you think of the words of the sunbeam neighbor?

The doleful neighbor has frightened more mothers, buried more babies, and caused more tears than all the plagues combined. She should be suppressed, and with her the long-faced, gloomy-looking doctor and minister.

## INVENTIONS, SCIENCE, ETC.

### THE WONDERS OF RESPIRATION.

I know a young man who has attended 25,920 funerals in twenty-four hours—all his own. He died by fractions, and was buried as fast as he died. The day after, he was just as much alive as he was two days before. As fast as he died, he found new life. He had learned that every motion of even the smallest part of the body caused the death of some atoms of that part, and that he had been eating and breathing all through his life just to replace those defunct atoms. Then he thought: "Chemistry says that those dying atoms are mainly carbon, hydrogen, sulphur, and nitrogen; and that the air is four-fifths nitrogen, and one-fifth oxygen, and also contains in the ratio of one part carbonic acid gas to every 3,333 parts of air. Now, if I could get that oxygen from the air to those atoms, it would unite with their hydrogen to form water, with their carbon to form carbonic acid gas, and with their sulphur to form a sulphuric acid compound. But then I might drown in the water, suffocate in the gas, or corrode in the acid. Indeed, to prevent such disastrous consequences, the vehicle that takes the oxygen to these atoms must bring away these poisonous products thus formed." When he had studied deeper into the subject he learned that this necessary vehicle was the blood. It can, eighteen times every minute, absorb through the lungs five and one-fifth teaspoonfuls of all the oxygen that the air can give it. It can unload even faster, because that can be done through the skin, kidneys, and bowels, as well as through the lungs. Outside, dead fish decays and breeds maggots and invisible poisonous microbes called ptomaines. Within, it is the same, except that the ptomaines usurp the whole field. The blood expels them also. So the funerals of the dead atoms consist in their cremation by the oxygen where they die, and the transportation and expulsion of their ashes and gases into the outer world, together with the microbes that they have gathered, 25,920 times every twenty-four hours.

By this process the air of the room occupied becomes a cemetery in which are buried the ashes, gases, and microbes, together. The gas is the charcoal gas with which Frenchmen suicide, and the microbes are what make rebreathed air so deleterious. My friend's room was 12x12 feet, with 10-foot walls, and held just 87,175 breaths, of which 17,233 were of oxygen. But thirty-three pints of the whole air were carbonic acid gas, and in every exhalation he added to them four parts in 10,000 more of carbon gas, which rendered irrespirable 110 other breaths that he would need to inspire. So that if the room were airtight, in forty-three minutes he would have no respirable air left, because of the excess of carbonic gas. Now, in addition, add the respired microbes, which in pure air are often less than one germ in two pints, but which increase to twenty in many supposedly well-ventilated rooms, and even to 600 in close school-rooms, and which are more than 100 times as poisonous as the carbon gas, and it is easy to see that the cemetery would need an airing within twelve minutes to drive out these pests. This is not all. In every inspiration he drew in twenty-five teaspoonfuls of oxygen; but the expiration returned only twenty teaspoonfuls. Hence every minute the oxygen supply was reduced over ninety spoonfuls, with resulting inability to consume the dead atoms and food wastes in the system, leaving them to decompose and breed extra myriads of disease microbes. Thus, in 191 minutes the oxygen would be entirely gone, but it would cease to support life in fifty-seven minutes, and, with a twenty-candle four-foot gas jet burning, the fifty-seven would be reduced to nineteen minutes in an air-tight room.

My friend had learned that air moving one-half foot a second (just fast enough not to be felt as draft) gives thirty cubic inches per second. But 2,000 cubic feet per hour are required, which demands thirty-two square inches of inlet and so much outlet. How could he keep a steady supply of pure air in his room and avoid drafts? He thought of quite a number of plans, the two most feasible of which are these: First, he could have a suitable pipe lead from outside to the back of the stove, then be deflected off towards the sides of the room. Again, he could fasten a strip of muslin eight inches wide across in front of the bottom of the lower sash, and raise the sash two inches. He could keep his room door open, and allow a good supply of air to come in through the hall window. Some other plan may occur to the reader.

By attention to these things our young friend lived to be so old that the accumulated ashes of his many funerals would have made an ample burial field for himself, if the microbes had been allowed to have their revenge. The noted camp-cure, which consists in out-door life day and night, owes its efficacy to the fact that the crevices are sky-high on all sides, and the ample inflow of pure air has restored thousands to the health that they had lost by being shut in and rebreathing their own noxious exhalations.—S. H. Platt, M.D., in *American Agriculturist*.

#### AMBER.

Amber is a substance which was long regarded as of a mysterious origin. It is now known to be the fossil gum of an extinct kind of pine tree. These pines formed forests thousands of year ago in the region of the Baltic Sea, where the gum which exuded from their bark accumulated in such quantities that it has supplied the markets of the world with amber since the most ancient times. The ancient Greeks got their supply from



there, and the merchants of Venice during the Middle Ages made regular annual trips to the Baltic for cargoes of amber. Until recently no other way of obtaining amber was known than to gather such pieces of it as were thrown upon the shore in stormy weather or to dive for it. But to-day there are great amber mines in the region of the Baltic, which are worked day and night all the year around. The deposits of the fossil gum extend from the very shores of the sea to about a quarter of a mile inland. To keep the water out of the mines, which are below the sea level, pumping has to be kept up all the time.

The stratum in which the amber is found is of blue earth which is shoveled into cars and drawn up to the mouth of the mine, where the earth is driven down a sluice by a force of water that dissolves and separates it from the amber. Nets with meshes of different sizes catch the amber, which is found in pieces from the size of a pea to the bigness of one's hand and sometimes larger. Thirty dredging ships work during eight months in the year at fishing the amber out of the sea with winding chains of buckets which drag along the bottom and bring up sand, stones and amber, the last being afterward washed out in nearly the same manner as on land. Many divers also labor in the gathering of amber, descending to the bottom from row boats in diver's armor with shovel and bag. Sometimes they stay under water for five or six hours at a time, not coming up until their bags are filled. In addition to their regular pay they receive a prize for every piece that reaches a certain weight.

Amber has a wonderful variety of colors. Some of it is as clear as crystal, some as yellow as honey, some light blue, and again a transparent green. Then it is found as white as snow, the color of cream, and often many of these tints are blended in one piece. There is a popular notion to the effect that amber has curative qualities for such ailments as croup and sore throat, and many thousand necklaces of it are sold annually for that purpose.

## ADULTERATION.

### PAINT AND ITS ADULTERATIONS.

Some of our readers may want to have their houses painted, and therefore a few hints on the subject of paint may be useful. Others may have had an experience in that line which they do not care to repeat; they have had painting done, so had their neighbor. Their job turned out a shabby affair, their neighbor's looked good. Both paid the same price. The following information may in part explain it, at all events being in possession of it will enable them to prevent a recurrence. We have before us a little pamphlet issued by a manufacturer of white lead. From it we quote, what seems to us to be common sense, plain statements of facts:

Honest paint is as good as ever. There is to be had in the market, white lead and also some substances which pass for white lead. Look out and avoid barytes. A great deal of money paid for house-painting is lost through the substitution of barytes for white lead. Whoever uses an adulterated article pays, for what he gets of the genuine, more than he would if he bought it pure. For who would adulterate, but for profit? He loses his work expended on it also—it costs as much to put on a half-year paint as a five-year paint. The best white lead is made by, what is called the old Dutch process, the slow corrosion of refined metallic lead with spent tanbark and vinegar. There are many misleading brands for the bogus white

leads on the market. Any brand that misstates the contents of the package is misleading. The following are analyses of a few of the many misleading brands with which the market is flooded. In order to more clearly show the great difference between the cost of pure white lead and of these mixtures the following comparative statements are given. For simplicity the cost of dry material only is used, as the addition of oil, labor, packages, etc., is nearly the same in both cases.

No names are given. We simply use numbers for the bogus white leads and show what the bogus brands are composed of and the cost of each ingredient, and for comparison give the cost of pure white lead, showing the profit to the adulterators.

	No. 1.		
	Per cent.	Cost.	Profit.
Barytes,	40.10	\$ .40	
Oxide of zinc,	59.90	2.54	
White lead,	none	—	
Pure white lead,	100	\$6.25	\$3.31
	No. 2.		
Barytes,	53.32	\$ .53	
Oxide of zinc,	15.06	.64	
White lead,	31.62	1.98	
Adulteration,	68.38	—	
Pure white lead,	100	\$6.25	\$3.15
	No. 3.		
Oxide of zinc,	55.70	\$2.37	
Barytes,	44.30	.44	
White lead,	none	—	
Adulteration,	100	—	
Pure white lead,	100	\$6.25	\$3.44
	No. 4.		
Barytes,	59.31	\$ .59	
Oxide of zinc,	34.78	1.62	
White lead,	6.46	.40	
Adulteration,	93.54	—	
Pure white lead,	100	\$6.25	\$3.64

It will thus be seen that the amount of adulteration in white lead is incredible. Some so-called "white lead" is half white lead; some a third; a quarter; an eighth; a fiftieth; some has no white lead at all in it. The so-called white leads are made of barytes, zinc, sulphate of lead, whiting, clay, with and without white lead.

Barytes is the chief adulterant. Zinc goes with it. Sulphate of lead, whiting and clay are more or less used.

Barytes costs about one-sixth as much as white lead, and is absolutely good for nothing.

Zinc has its uses and value; it ought to be sold as zinc. Why mix it with barytes and label the mixture "lead?" The answer is: Zinc and barytes go together; a little zinc helps sell a good deal of barytes. Zinc is good paint; but zinc and barytes make poor paint.

Sulphate of lead has very little value.

Whiting is good for nothing in paint. Whiting costs an eighth or a tenth as much as white lead.

Clay is good for nothing.

Barytes in oil is transparent. Alone it would not pass for white lead. Add zinc, and the mixture does. Barytes is used for its weight—it is nearly as heavy as lead—and zinc is used to conceal barytes. Barytes is to paint what water is to milk, and shoddy to cloth.

White lead unites with oil, penetrates wood, forms a thick tough tenacious coat on it, lives to a good old age, and keeps the wood sound. Barytes acts as sand would. It does not combine with the oil; it sinks to the bottom of the paint-pot, avoids the brush, gets on alternately thick and thin. It stays till the oil dries out, and then goes off in dust, and is washed off by rain. What is left (if there is anything left) is zinc and white lead. You overpay for adulterated paint; you overpay for putting it on. In a few weeks or months your buildings are rusty and unprotected. These brands may, from time to time, be changed

and what was branded one thing last year may now be branded another, with \$100 forfeit if not strictly pure—but the packages generally contain the usual amount of barytes. While it is conceded that white lead is the best and cheapest paint that can be used, bear in mind that not all the packages bearing the words "White Lead" or "Pure White Lead" contain the genuine article. The market is flooded with mixtures branded "White Lead," but containing little or no white lead. The brands that have given white lead its reputation as the standard paint have always been, and are still, made by a process of slow corrosion, called the "Old Dutch Process," which requires from four to five months to complete.

The lesson we would teach then is:

**WHEN YOU PAINT**—Use strictly pure white lead. Why? Because it penetrates and firmly adheres to whatever it is applied, thus protecting the surface from the elements and preventing decay. It completely covers the surface to which it is applied. It is the most durable paint. It is the most economical; that is, with white lead a house can be kept well painted for a term of years at a less cost than with any other paint. Other paints scale or chip off, look rusty in a short time and will not hold subsequent coats of paint; while white lead is a perfect base for repainting.

**IN MAKING PAINT**—Pure linseed oil is as necessary as pure white lead. There are numerous mixtures and substitutes offered in place of linseed oil, containing rosin, coal oil, and other deleterious material, which, if used, will ruin the best white lead paint.

**IMPORTANT.**—Attention should be paid to the surface on which painting is to be done. It should not be wet or damp, as the moisture will repel the oil and prevent the paint from adhering. In priming or applying the first coat the paint should be thinned with an additional quantity of pure raw linseed oil, which will penetrate the surface and form a binder for subsequent coats. Should the woodwork be old or very dry and porous, a coat of this paint well thinned with linseed oil, or even of pure raw linseed oil mixed with a small portion of turpentine japan, should be applied to fill the pores and prevent chalking of the paint, which is due to absorption of the oil of the paint by a dry, porous surface, thus leaving the dry pigment in a condition to be readily rubbed or washed off.

Each coat should be given time to dry thoroughly before another coat is applied. Sufficient paint for each coat should be mixed before beginning to apply it.

It is not the province of this journal to recommend any particular brand. With the information here given, every reader will know how he can prevent being cheated. For the particular brands offered, look in the advertising pages of any reputable journal.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### BOSTON BROWN BREAD.

One cup white flour, one cup rye meal, one cup Indian meal, two-thirds of a cup of molasses. Add to the molasses one scant teaspoonful soda and stir until it is all in a foam, then add other ingredients, and a cup and a half sweet or sour milk. Put in a steamer and steam fully four hours. If desired add a few raisins.



## PUDDING SAUCE.

One cup sugar, half cup butter, mixed thoroughly; one teaspoonful flour, one egg well beaten, one cup boiling water, a little mace.

## STEWED KIDNEYS.

Wash three kidneys, wipe dry and cut in pieces. Put three tablespoonfuls of butter in a frying pan; when melted add a cup of good brown gravy, juice of half a lemon, and a little of the peel grated, a small pinch of mace, pepper and salt to taste, a teaspoonful of chopped onion. Cover closely and simmer ten minutes. Take up the kidneys and put on a hot dish. Thicken the gravy with browned flour, boil up once and pour over the kidneys.

## CHEESE FONDU.

Soak one cup of bread crumbs in two scant cups of milk; beat into this three eggs that have been whipped very light; add a tablespoonful of melted butter, pepper and salt to taste; a pinch of soda dissolved in hot water; lastly half a pound of dry cheese, grated. Butter a baking dish, pour the fondu into it, strew dry bread crumbs on the top, and bake in a rather quick oven until delicately browned. Serve at once.

## SCOTCH OATMEAL COOKERY.

OAT CAKE AND BROSE, WHITE PUDDINGS AND BANNOCKS—SOWENS—A ROBBIE BURNS HAGGIS ON THE QUEEN'S TABLE—THE IDEAL PORRIDGE.

[From a Special Scotch Correspondent.]

The oatmeal used in the Scotch Highlands is genuine meal. The groats, or cracked oats so much in favor in the United States, are not found here. The Highlander prefers meal of his own raising. That "from the mills" is adulterated with American oats, which are considered inferior to the native product. The meal, after being put into the barrel, is well beaten or "tramped." This is said to "bring out the meal," i. e., it gives it a better flavor and makes it go further. "Porridge" is the invariable breakfast for young and old in the Highlands. The Scotch wife boils her porridge half an hour. It is eaten with milk if milk is to be obtained, although many prefer buttermilk in its season, as it is more easily digested. A certain poor widow of my acquaintance, when the cows ran dry and milk was scarce, made "treacle ale" for her children to eat with their porridge, two pounds of treacle (molasses) with water ginger and "balm" or yeast from the distillery. But oatmeal is not limited to breakfast. Oatcakes are found on the table at every cottage meal. I saw a cottager make and bake her oat cakes one day. She first added to her meal a little melted dripping. Then she wet the meal with cold water. There is an art in this application of cold water only attained by experience. "Just enough and not too much," is the rule, like the recipes of old New England cooks, who measured out each ingredient "according to judgment." So, being not too wet, which would make the cakes heavy and sticky, and not too dry, which would cause them to tumble apart even before baking, the dough was rolled thin with many a quick, even stroke of the rolling pin, dusted thickly meanwhile with more of the meal. When of proper thickness—and it must be as thin as will hold together—the dry meal was dusted off with a bunch of white quill feathers, the dough cut into what shape the maker pleased, and baked slowly on the griddle over the fire of coal or peat. The cakes are not brown, but gray, when done. Toasted and eaten hot with milk they are food for a king.

With a bit of oatmeal cake and ewe's milk cheese in his pouch, the Highlander of former times was ready for cattle lifting, lowland harrying or what

ever might offer. And similarly fortified, he is prepared to-day for the more innocent, if less exciting occupations of modern life. For ewe's milk cheese, however, he substitutes that of cows, white, crumbly and stuffed with caraway seeds.

Another form in which oatmeal is eaten is brose. When the cook for a farm bothie—and there are still bothies in the Highlands—cooks her porridge the men prefer "brose," which each one makes for himself. He puts two teaspoonful of oatmeal into his wooden "bassey" or basin, adds a pinch of salt and then pours boiling water on, stirring the while. Here again comes in "the judgment." Not too much water and not too much stirring; just enough of the latter to bring each grain of meal into contact with the water. Then stop. The milkmaid the night before has measured out each man's portion of the milk in a basin (bowl), and he pours the cream off this over his brose. It is a palatable dish, of which the men are very fond. The milk, minus the cream, with oat cakes, completes the breakfast.

Brose makes a good dinner, with the addition of a dish of kail, especially if the brose be made with the liquid in which meat has been boiled. Kail is a species of cabbage, and no Highland cottage is complete without its kail yard. A dish of kail well boiled, mashed with a spoon and a little butter added, is as palatable to a Highlander as baked beans to a Bostonian. And to improve it—though it is like gilding refined gold—just scatter over the dish of kail thus prepared a sprinkling of raw oatmeal. A slight sprinkling of raw oatmeal improves most dishes in the Highlander's estimation. I remember how I was told that a company of young folks used to yearly visit, at Hallowe'en, a certain farmsteading, where, after going over the boundaries with torches to frighten away the witches, they partook of "fro milk," i. e., whipped cream. Over this "fro milk" raw oatmeal was scattered by way of flavoring.

Sowens is a preparation of oatmeal recommended by Scotch physicians for delicate stomachs. It is prepared from the "sids," or inner husk of the oats. It is well known that the most nutritious part of all grains lies next and clings to this inner husk.

The "sids" are put into a jar covered with water and left to stand till slightly sour. The liquid is then poured off and passed through a hair sieve to free it from husks. The result is a thick, creamy substance. If intended to be taken as a drink it is boiled but a short time and will require thinning with additional water. Salt, of course, always to be added. Boiled a longer time it becomes a delicate jelly, to be eaten with milk or cream. I can testify to its excellent qualities from a somewhat extended trial of it. Sowens, or porridge and cream, makes a good supper or "night cap." This is one of the little tastes of the Princess of Wales. Not too much of either, but just a "sup" warm and comforting, before getting under the blankets.

"White puddings" are another form that oatmeal cookery takes. Large intestines, properly cleaned as for sausages, are loosely filled with oatmeal, to which has been added a good quantity of finely chopped suet and a little minced onion and pepper and salt. They are boiled three hours and when cold packed away in dry meal. When to be eaten they are boiled about ten minutes, or till thoroughly warmed. They are very savory, if home made. As much cannot always be said for those sold in shops.

Oatmeal enters into the composition of the immortal haggis—vide Robert Burns. To make a haggis you first procure the "bag," that is, the large stomach of a sheep. And with the "bag," a sheep's "draught," i. e., the heart, liver and

lights. The stomach is carefully cleaned and the draught boiled. The latter is then minced fine, and to it are added two large cups of oatmeal and some minced onions, with pepper and salt. The mixture is then wet with the liquid in which the draught was boiled. It should stand some hours before the bag is filled so as to give the oatmeal time to swell. The bag is then filled and boiled fully four hours. It is to be eaten hot, with hot potatoes. It is extremely savory. But no meaner pen than that of Robert Burns may sing its praises. Read his poem, "To a Haggis."

Haggis is not infrequently found on the royal table at Balmoral. Principal Tulloch once dining there was surprised, and, being a Scotchman, delighted to see a haggis. And it gave occasion to Her Majesty to "chaff" Princess Helena, who does not like the haggis. On their first coming to Balmoral their physician, Sir James Clark, recommended oatmeal porridge for the children, and ever since it has formed an important part of the royal dietary. The oatmeal for Windsor is ordered from Deeside. And though what I said in the beginning is true, and the average Englishman does not like oatmeal, yet many of the nobility, following, as in other respects, the example set by royalty, are beginning to use it, and large orders are filled in Aberdeen for English country houses. A great hue and cry is often raised about meat. "The workingman should have his meat." But the hard working Highlander rarely touches meat. His dietary is oatmeal. And stronger, more stalwart men I have rarely seen.

## CLEANING GLOVES

PERFECTLY CLEAN GLOVES—THE EXCELLENT BERLIN METHOD.

The proper cleaning of a glove is a matter of considerable importance to women who are not wealthy, and who like to wear pale shades in gloves. After repeated trials of the various glove cleaners in the town, one is forced to the conviction that they do not care to excel in this branch of their business—otherwise why do they so often send home gloves spotted and stiff, and utterly unfit for wear? The Germans, who are always experts in nice economies, clean gloves in the most satisfactory manner. A suede glove after coming home from the cleaner in Berlin possesses all the softness of a new glove; and there is not a particle of unpleasant odor in the kid, but on the contrary it has an indescribable fragrance, as if it had come from a chest of violet wood.

"I think the trouble" said a clever Berlin woman when questioned on this point, "is that your American cleaners do not take time enough to do their work. Instead of rubbing the gloves with the gasoline, as our cleaners do, they dip them in the fluid and wash them; or they saturate them with it. That is all wrong, but it is quickly done. In Germany women very often clean their own gloves, and they use the same methods as the glove cleaners. The gloves are stretched on wooden hands and rubbed thoroughly in every part with a pad of flannel dipped in gasoline. The cleaner is careful to take downward strokes from the fingers to the wrist. The kid is never saturated, but is moistened with the cleaning fluid, and as quickly as the flannel becomes soiled in the least a clean piece is used. The seams are rubbed carefully and well, and every portion of the glove is gone over. The gasoline evaporates almost as soon as the rubbing ceases. If the gloves show any soiled places we go over them again till they are perfectly clean.

"When they are perfectly dry (which will be in a few moments after cleaning), you will notice that the odor of gasoline has gone. Now rub



them with talcum powder in every part, applying it with a clean flannel in the same way the gasoline was applied. When the powder has been rubbed into the kid shake or brush off any surplus that may lie on the surface and lay the gloves away. The talcum powder, which may be purchased at any good apothecary's, gives the kid a delightful softness and the finish of new gloves. It also imparts the delicate fragrance."

This talcum powder is often used by our gloves to powder the inside of the glove when one is putting on a new pair; but as other powders are also used for this purpose, it is better to buy it at a druggist's. If the directions given are carefully followed, any suede glove that is not stained may thus be perfectly cleaned and refinished. If you have not the wooden hands, the glove may be cleaned on the owner's hands, but they cannot be stretched so well or so firmly as on hands of wood and the process is not nearly so satisfactory. Do not attempt to clean the gloves with benzine or naphtha; these are inferior to gasoline for cleaning, because they contain a larger percentage of oil, which leaves its own stain behind it.

Do not use gasoline or any of these cleaning fluids in a room where there is a fire or light of any kind, it is dangerous. Open the windows after using it, to allow the gas to pass out. If purchased at a petroleum factory, gasoline should not cost more than five cents a quart.

#### RIGHT AND WRONG WAYS OF MAKING COFFEE.

BY MRS. D. A. LINCOLN.

[From the *London Housewife*.]

##### THE WRONG WAY.

Buy the cheapest coffee; that is, the kind which costs the least money, without regard to its purity or quality. Use more or less coffee, just as it happens; accurate measurement is not essential. Put in an old tin coffee-pot, pour on water from the tea-kettle—never mind about the quantity or its temperature, or the time it has been in the kettle, since, as it comes from the tea-kettle, it must be all right. Let it boil indefinitely, and if, when breakfast is ready the water has boiled away, just pour in some more.

If you can afford it add one or two eggs at any time during the process, when you happen to think of it. If it be roily strain it, if you can find a strainer; and serve it with—yes, common brown sugar and skim milk will do, if you choose to think so. The compound is—what?

If there be any left, keep it warm on the back of the stove until the next meal. As this long steeping makes it dark it must be strong; so add more water. After dinner set the pot away, and the next morning pour out the old grounds, rinse it or not—just as your time will allow—and repeat the process of making. Wash the coffee-pot occasionally if the outside need it, but rinsing is sufficient for the inside.

##### THE RIGHT WAY.

Buy pure coffee—not necessarily that which costs most—but buy it from some reliable dealer. Mixtures of one-third Mocha, and two-thirds Java, or half male berry Java, have given general satisfaction. This should be kept in air-tight tin cans or glass jars, that the fine flavor may be preserved.

Opinions vary as to the best kind of coffee-pot. Some prefer porcelain or granite ware; others prefer tin. But all good housekeepers agree that absolute cleanliness is of the utmost importance. The pot should be cleansed every time it is used—all parts of it, and the spout not excepted. A brown substance is soon deposited on the inside of the pot if the coffee be allowed to stand in it

long, or if it be not often and thoroughly cleansed.

An important point, and one often overlooked even by intelligent housekeepers, is that the water should be freshly boiled in a clean kettle. Water in boiling, loses the air or gases which give it a fresh taste and sparkling appearance. It should be used as soon as boiled, or it becomes flat and tasteless. A brown substance is deposited on the inside of the kettle, and this, if allowed to accumulate, imparts an unpleasant taste to the water; yet there are many housekeepers, exquisitely neat in many ways, who seldom wash the inside of a tea-kettle. It is an excellent plan to keep a small kettle to be used only in boiling water for tea or coffee. Wash and wipe it carefully every time it is used.

The proportions of water and coffee are one heaping tablespoonful of ground coffee to one-half pint cup of boiling water. Reduce the amount of coffee slightly when several cupfuls are required. It takes a larger proportionate amount of both coffee and water to make just enough for one cupful than for more, as the grounds absorb a certain proportion of the water, and the last coffee poured out is not as clear as the first. Coffee should be made in such a way that the full strength and aroma may be obtained without developing the tannic acid.

Whether coffee shall be boiled or not will probably be always a question. Many think it has a raw taste if not boiled; others contend that in boiling much of the aroma is lost. Boiling makes the mixture roily, and it must stand long enough to let the grounds settle, and the liquid become clear. Some albuminous material will help to clear it. Fish skin, isinglass, cold water, and eggs are used for this purpose. Eggs give it a flavor and a body, and, no doubt, improve an inferior quality of coffee; but they increase the cost of the beverage, as, aside from their own cost, they clog the grounds, thus making a larger amount of coffee necessary to obtain the desired strength. But if coffee must be boiled, let it be boiled in a closely-covered vessel with a thimble or cork in the spout, as, if left uncovered, the volatile oil which forms the aroma, is dissipated; and it should never boil more than five minutes, as longer boiling extracts the tannic acid. There is a widely prevalent, but erroneous, notion that long boiling extracts more of the strength and color, and is, therefore, more economical; but strength and color thus gained are obtained at the expense of flavor and wholesomeness.

After thorough trials of several methods of making coffee, I have found filtering (or percolation) the simplest, most economical, and most satisfactory. Various modifications of the biggin, or French filter coffee-pot are in use. This is a double coffee-pot with one or more strainers in the upper pot. Some of these biggins are expensive, and soon get out of order; but others are very simple, and with care will last a long time. The coffee should be ground very fine and placed in the upper pot. Some varieties have a convex, coarse strainer in the bottom, to keep the grounds from clogging the fine strainer. Then a coarse strainer is placed over the grounds, the boiling water is poured in, and allowed to drip slowly through the coffee into the lower receptacle. Many of the coffee-pots made on this principle are placed in another vessel containing boiling water; but if there be only two parts to it, the coffee-pot should stand where the coffee, as it drips through, will keep hot but will not boil. If the upper part be not large enough to contain all the water desired, it must be poured on in small portions. The full strength and aroma are thus obtained; no clearing is necessary, and if care be

taken to observe all the minor points in the directions, the beverage will invariably be good.

For good breakfast coffee, cream, scalded milk, and block sugar are necessary. The milk should be scalding hot, but never boiled, as boiled milk gives an unpleasant flavor. Ascertain the tastes of those at the table, as most coffee drinkers prefer to have the coffee poured on the cream and sugar. One tablespoonful of cream, two of hot milk, and two blocks of sugar, is a fair proportion for a breakfast-cup. Pour in the coffee until the cup is three-fourths full. Never fill it to overflowing.

After-dinner coffee, or black coffee, is made in the same way, a double portion of coffee being used. It should be very strong, and perfectly clear. Serve this in small cups with block sugar if desired, but not with cream or milk, as the milk counteracts the purpose for which the coffee is taken.

Coffee is stimulating, and when taken clear and very strong after a hearty meal aids digestion; but when combined with cream or milk, a leathery compound is formed, which is indigestible, and irritates the internal membranes.

#### CLEAN AND UNCLEAN BEASTS.

The subject of this distinction among beasts has not been exhausted by all that has been written upon it; and as long as erroneous conclusions are so generally received and defended, no apology can be required for an effort to further extend the knowledge of the truth.

1. The distinction of clean and unclean beasts is first noticed in the Scriptures in the order to Noah to take them into the ark. As no explanation is there given, it is evident that Noah understood what was meant by this discussion. He then knew that some beasts were clean and some were unclean.

2. This distinction did not relate to what might, or might not, be eaten: it lay back of that; for no permission had then been given to eat animal food of any kind.

3. But it did divide between animals which might and might not be offered in sacrifice. Unclean beasts were not accepted as offerings to the Lord.

4. When Abraham was directed by the Lord to prepare an offering, he was told to take "an heifer of three years old, and a she goat of three years old, and a ram of three years old" Genesis 15. These three kinds of animals were the only ones that were offered in sacrifice, and the only ones among those known as "domestic" that were ever allowed to be eaten.

The first offering of which we read, which was accepted of God, was of "the firstlings of his flock." Of the original word for flock here used, Gesenius says it is used only of sheep and goats.

There is little said in the book of Genesis about eating flesh; but all that is said gives us to understand that only clean beasts were eaten. Nothing can be even inferred to the contrary. Noah could not eat of the unclean when he came out of the ark; there was no provision for his so doing. He was to preserve seed of all; but of the unclean he took only two, male and female. Of clean he took by sevens; and if the permission then given to eat animal food related to his circumstances, in view of the condition of the earth at that time, he could not so interpret it as to include the eating of unclean beasts, for the circumstances rendered it impossible for him to eat of them and to preserve their seed. And so of Abraham, he "fetched a calf" and dressed it for his visitors.



5. The patriarchs and their descendants did not deal in unclean beasts; they were no part of their possessions, except beasts of burden, which were comparatively little used and never eaten. It is interesting to note that the word "cattle" in Genesis is from two words, one denoting all kinds of animals, as in chapter 1: 24, 25; 8: 1; 9: 10 (also Ex. 12: 29); the other, as Gesenius says, being "strictly used only of sheep, and goats, and neat cattle excluding beasts of burden." This word is used in Gen. 13: 2; 30: 29; 31: 9; 34: 5, 23; 46: 32, etc. The word generally rendered flock refers only to sheep and goats. That rendered herd (Ex. 10: 9) refers only to kine, or "neat cattle." If the reader will turn to the passages cited above, he will see that possessions of cattle, flocks, and herds were of kine, sheep, and goats; and the idea of a herd of swine, as we find it in the New Testament, is utterly excluded from the early records of the Bible.

6. The rules laid down in Leviticus do not appear to be new or arbitrary, or to refer only to the Jews (I mean those referring to kinds of animal food), but were based on an original distinction existing and recognized before the existence of the Jews. The facts were not created to supply the rules there given; but the rules were the recognition of facts long existing.

From all this it has long appeared, to my mind, to be clearly established that this distinction had regard to the nature of the animals, and that the permission to eat animal food never extended to the eating of unclean beasts. They were not fit for food even in their best days. True science is certainly in harmony with this declaration. In this I do not mean what certain doctors may say about it; for there is nothing too unscientific or absurd for some of them to say. Who would trust the judgment of any doctor who recommends the habitual use of tobacco for numerous diseases? or of the doctor who recommended a mother to feed her child fat pork, because it was covered with scrofulous sores? (This occurred in Iowa.) The swine is the only unclean beast that is generally eaten, and I know of but one reason for their so general use, namely, they are so easily and cheaply raised. Most people now acknowledge that pork is not among the best kinds of food; its use is but a question of appetite and dollars. Yet would they examine and reason with patient candor, they would soon perceive that the appetite is best satisfied with good, clean, healthful food, and that grains and fruits are cheaper than meat.

7. No argument against the position herein taken can be drawn from Peter's vision in Acts 10, as it has no reference to this subject. Peter's interpretation of it was this: "God hath showed me that I should not call any man common or unclean." This is, he should preach to a Gentile as readily as to a Jew. But I do not believe (who does?) that Peter would have eaten a hyena, toad, or serpent, any more readily after that vision was given than he would before. Yet he would have been compelled to do so if the vision referred to eating what he saw, for therein were "all manner of fourfooted beasts of the earth, and wild beasts and creeping things." But the meaning of the vision being explained by Peter himself, we must rest our judgment on this explanation.

8. Nor can any argument in favor of unclean beasts be drawn from 1 Tim. 4: 4, 5, which reads: "For every creature of God is good and nothing to be refused, if it be received with thanksgiving; for it is sanctified by the word of God and prayer." If this refers to animal food at all, it cannot refer to all animals, for the unclean were not sanctified, that is, set apart, for food by the word of God, but they were expressly forbidden by that

word. If this truth be overlooked, then this text would as certainly bind us to eat cats, dogs, etc., as swine. "Every creature" in verse 4 is limited by verse 5.

The reader may admit all this and believe with me that the eating of unclean beasts is not allowed, and yet this question may arise: Why advise against eating of clean beasts, seeing that permission was given to eat them?

J. H. WAGGONER.

## THE CARE OF SLEEPING APARTMENTS.

[By Katherine B. Johnson in *Cultivator and Country Gentleman*.]

When the thermometer ranges up among the nineties, it is surely more comfortable if we exclude the direct rays of the sun from such rooms as we work or sit in during the day—that is, providing the home is well ventilated, for a hot, well-aired room is preferable to a close, stuffy, cool one.

But no day is so hot that we should not let the full force of the sun penetrate to the furthest corner of such sleeping apartments as are occupied only during the night; and those of invalids as well, when it can possibly be done, by removing the occupant to an adjoining room.

The wise housewife considers the location, furnishings and proper care of the sleeping apartments of her family as second only in importance to that of the food provided for them. And why should she not, since rest and sleep are the only means which nature has provided to restore the wastes of that mysterious element of our being we call "nerve force"?

In our complicated, hurried mode of living, the demands on the muscular strength and nerve force, not only of men and women, but of children, are so great, and our knowledge of the value and necessity of rest so limited, that little opportunity, except during the night, is given nature to meet the demands made upon her; consequently all the conditions should then be favorable.

From the recess and cramped 7 by 9 first-floor bedroom of half a century ago, to the commodious, handsome chambers of the modern house, is indeed an advance. But a large bedroom is little better than a small one unless there is ingress for fresh air and egress for foul. And even when all healthful conditions are complied with, we often see the largest and sunniest ones set apart as guest rooms.

Warm, bright colors, handsome furnishings and attention to the minor details of comfort, will convert a north chamber, where the sun cannot possibly enter, into a beautiful guest room, but do not depress any one's spirits by a daily occupancy of it.

Two windows are preferable to one, and a door and window opposite, so that a draft can be easily created, seems a positive necessity. And yet, as the majority of people are compelled to live in houses of other people's planning, we must study to adopt our methods to circumstances.

Windows should certainly drop at the top as well as rise at the bottom; and in old houses, where they do not, it can be easily remedied. Remove the narrow strip of wood that holds the upper sash in place, and fasten a wood or metal button just beyond the sash, so that the latter will rest on it when it is turned across. Put two more at different points below, to hold the sash when lowered.

If it were not that the majority of our houses are poorly built, and fresh air is always trying to insinuate itself through the loose joints and

cracks, we should be a more debilitated people than we now are.

The upper sash should be lowered, and the bottom one raised to suit the severity of the weather, the direction of the wind, and the position of the bed. Though as regards the latter, if the room is large it can be easily shifted from one position to another. In extreme weather a fairly good circulation of air can be kept up by raising the lower sash two inches above the sill and having a strip of board or sand bag to fit under it.

I know there is little grace and beauty in Holland shades and short sash curtains, but when combined they make a perfect chamber curtain for all practical purposes.

If, however, your aesthetic taste cannot tolerate their stiffness, then substitute some light, airy draperies that subdue but do not shut out light.

Heavy draperies should never be used in chambers that are in common use. They not only shut out the sun, but absorb dust and other more injurious particles.

A hardwood or stained floor, with rugs, is the best kind for chambers; but if you persist in using all-over carpets, compromise enough to paint a six-inch wide strip around the outer edge of the floor, and tack your carpet at least four inches from the baseboard. This will leave no space for dust to lodge, and make sweeping with a carpet-sweeper, daily, a small task.

The walls of sleeping apartments should be either painted or calcimined. If they were repapered every year it would not matter, but paper will remain clean-looking for years, when in fact it is loaded with foul matter which gives off poisonous gases. If paper is already on the walls see that it is thoroughly removed before new is applied.

Never was chamber furniture as handsome and low-priced as now. But, alas, many of us must economize closely and continue to use the old! Fortunately for us, the most important part of a bed—namely, the springs—is a movable attachment, and can be had of the most approved style to fit any bedstead. Woven wire are more expensive than some other styles, but by far the best.

As for the bed itself, so that it is not feathers, it matters little, as far as health is concerned, whether it be a hair, felt, husk or excelsior mattress, or a tick filled with loose husks or straw. The latter kind, thoroughly shaken and aired every morning, and renewed twice a year, is a far more healthful bed than the highest grade hair mattress used year after year without being renovated, though of course they are far less tidy in a room.

I trust that there are few housekeepers like the one who berated her niece for sitting on the piazza resting while her bed was unmade, and wound up by asserting that during the twenty-nine years of her married life she had never eaten breakfast until her bed was made, unless she was down sick.

As soon as the occupants have left a bed the pillows should be thoroughly shaken and placed near an open window—though not in the direct rays of the sun. Then remove each article of bedding and place them on chairs to air (as they cannot properly do when thrown over the footboard in a mass). If possible draw the bed near a window where the direct rays of the sun can fall on it, and let it remain at least two hours.

Did all people sleep in rooms and beds cared for in this way, and remove all underclothing worn during the day, substituting that which had been well aired, we should hear less of insomnia and ill health among adults, and nervousness and irritability among children.

The personal clothing worn during the night should also be thoroughly aired before it is hung away in a wardrobe or closet.

A hamper or other receptacle for soiled clothing, no matter how elaborately decorated, should never be kept in a sleeping room. The gases arising from the combined action of heat and moisture are positively dangerous.

If a bath-room adjoins a sleeping apartment, the greatest care should be exercised that the plumbing is perfect, and the drain pipes should be flushed every week and powdered sulphate of iron (copperas) put down the pipes occasionally.

Folding beds are sometimes a necessity, but unless one is scrupulously careful, they become positively unwholesome and remind one far more of a sleeping-car berth than of a luxurious home bed.



## BOOK REVIEWS.

**HYDROTHERAPY AT SARATOGA**, a Treatise on Natural Mineral Waters. By J. A. Irwin, M. A., Cambridge, England; M. A., M. D., Dublin University; M. R. C. S., England, etc. New York: Cassell Publishing Company, pp. 270.

As stated in the preface, "the purpose of this work is to establish among educated readers a correct and unprejudiced valuation of mineral waters generally, and those of Saratoga in particular." The task is no easy one, for in all that pertains to this subject the reign of quackery has been heretofore practically undisputed.

Saratoga seems to be singularly rich in the number and quality of her mineral fountains. The waters are mainly of the class described as *carbonated alkaline saline*, "but although the same constituents exist in the various springs, they are so diversely proportioned that what are prominent and potential elements of one have relatively small importance in another; and thus the aggregate characteristics differ so widely that we find among them quite dissimilar compound remedies; and fair representatives of almost every type of serviceable mineral water."

This opinion is no doubt largely correct. We cannot, however, endorse the assertion that "the lack of sulphate of soda is scarcely to be regretted." The arrangement of analyses is particularly ingenious. The "skeleton" table occupies but a single page, yet shows at a glance the principal ingredients of no less than twenty-eight different springs, thus enabling easy comparison of the various waters, and the selection of the particular one must suitable for any given case.

On the whole it may be said that this little book is the most compact, interesting and instructive work that has yet appeared upon the medical uses of mineral waters, and will be found invaluable

to either physician or layman desiring a scientific and practical knowledge of the health-giving possibilities of our greatest American spa.

**KNOTS, SPLICES, HITCHES, BENDS AND LASHINGS**, Illustrated and described by F. R. Brainard. Ensign, United States Navy.

Here we find 128 illustrations, showing more kinds of rope fastenings than many sailors ever heard of; each one fully described and defined, and all the steps in its production clearly laid down. Even the hangman's knot is there, in two stages of manufacture. There is also a glossary, some useful tables of strength of ropes, etc.

Altogether, the author, who is one of the brightest men in our navy, has done himself credit, and produced a useful book. The mechanical execution is of the high standard characteristic of the Practical Publishing Company, from whom, at 21 Park Row, it may be had, postpaid, to any address for \$1.00; or the ANALYST will furnish it at the same price.

**FIFTY YEARS HENCE; or, What May Be in 1943.** A Prophecy Supposed to be Based on Scientific Deductions by an Improved Graphical Method. By Robert Grimshaw.

In this book, which in some respects out-Bellamies Bellamy, the author, who is well known as a writer upon the steam engine and other mechanical topics, makes his hero assume the role of a prophet and predict the state of affairs material and social in 1943. The graphical method by which he is supposed to read both the future and the past is interesting, and the results most readable and instructive. The introduction by which he leads up to the prophecy is charming in style and matter and of especial interest to Freemasons. It is doubtful if many good and great men deserve to receive a more eloquent eulogium

than that which concludes this really admirable production.

The price of the book, postpaid to any address, is one dollar, and it may be had either at this office or of the Practical Publishing Company, 21 Park Row, New York.

## THE BUFFET CAR.

The combination buffet smoking and library car introduced by the Wagner Palace Car Company for service on the limited trains of the New York Central and connecting lines, was a distinct innovation, and sprung into instant popularity. Cars of this type are luxuriously furnished with movable easy chairs, couches, tables, writing desk, book-cases, files of the current daily newspapers, illustrated weeklies and periodicals; a buffet stocked with choice wines, liquors, cigars, etc. Beyond the smoking-room is the shaving parlor, in charge of a competent barber. Opposite is the bath-room, conveniently arranged and perfectly furnished. The books in the library are for the free use of passengers, and may be taken into the other cars if desired. It is only necessary to ring for a porter, who will bring you a catalogue from which may be selected any book required. The latest quotations of the New York and Chicago Exchanges are received en route, and posted in the smoking-room for the benefit of passengers interested in fluctuations of the markets. In a word, the buffet car is a clubhouse on wheels.

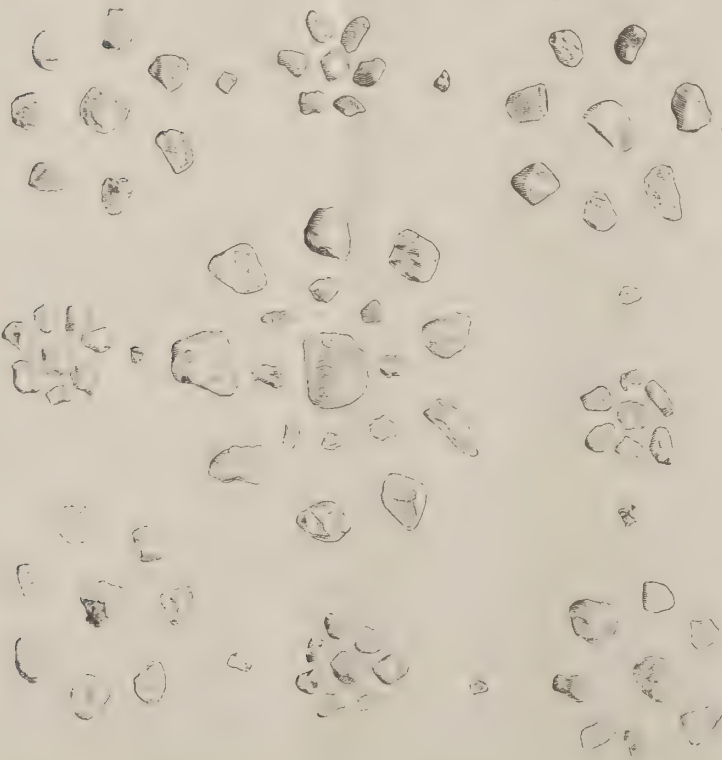
## FOR NERVOUS DISEASES

Use Horsford's Acid Phosphate. Dr. F. G. Kelly, Alderton, W. T., says: "I have prescribed it in a large number of cases of restlessness at night and nervous diseases generally, and also in cases of indigestion caused by lack of sufficient gastric juice of the stomach, with marked success, and consider it one of the best remedies known to the professional world."

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Sprngs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## A SAFEGUARD OF THE SEASON.

The seductions of the spring-time markets are, indirectly at least, responsible for a good deal of sickness. Few of us have the resolute self-denial, especially after such a long and hard winter as we have just endured, to practice the full measure of restraint which is advisable in making a radical change of diet. Too long we have, perforce, had an excess of animal food and a surfeit of canned goods. And now we go to extremes in suddenly abandoning the flesh pots and yielding to the temptations of fresh vegetables galore, perhaps even to the extent of unripe berries and the gripe-compelling cucumber. Naturally laxity of the bowels ensues and as we have no time to bother with any annoyance of that sort, we take a dose of some medicine to stop it at once. Then, according to our quality of reason, we are not surprised that a fit of costiveness ensues. "Never mind," we say to ourselves, being much too busy to waste any serious consideration on our bowels, "that will come all right in a day or two." But it does not. Severe constipation is much more likely to ensue and as an immediate consequence. The liver—which is pretty certain to demonstrate a morbid sensitiveness in such emergencies—takes offence and "goes on strike." Then, the first thing we know, we have bilious fever, or bilious colic, or just plain billiousness, or an ag-



exercise—but not enough to tire the body or ruffle the temper.

Not ours, but the word of the millions who use it as to whether it hurts the hands, clothes or paint—probably your neighbors can tell you all about PEARLINE.

**Send it back** Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearline, the honest thing to do is—*send it back*.

167

JAMES PYLE, New York.



## A Tonic

For Brain-Workers, the Weak and Debilitated.

### Horsford's Acid Phosphate

is without exception the Best Remedy for relieving Mental and Nervous Exhaustion; and where the system has become debilitated by disease, it acts as a general tonic and vitalizer, affording sustenance to both brain and body.

Dr. J. C. Wilson, Philadelphia, Pa., says: "I have used it as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

gravated form of dyspepsia declares itself and the obnoxious fact forces recognition that we are really sick. "It is never too late to mend" and "while there is life there is hope," so, if we do the proper thing, even now, there is no reason why we should not come out all right very soon—pre-supposing, of course, that we have not let the trouble continue until it has developed into an inflammation of the bowels, or some dangerous form of kidney disease—for, be it remembered—the kidneys are involved almost, if not quite as soon as the liver. And what is the "proper thing" to be done? The answer is easy—"Take a course of Ayer's Compound Cathartic Pills." If we had taken them as "after-dinner pills" (one each day, just after dinner) through this season of treacherous delights we would have had no trouble, for they would have kept our digestive apparatus in vigorous working order and our excretory functions just what they should be—"not wildly swift nor obstinately slow" in their operation. But, as we have not done that, nature now demands them as a cure for the ill conditions invited by our neglect. And we may be sure they will do their work well, not simply as purgatives stimulating healthfully the peristaltic action of the bowels, but as cathartics stirring the sullen recalcitrant liver to a sense of duty and invigorating the weary over-worked kidneys. Another excellent quality possessed by them is that their use does not produce the consequent constipation which follows most other purgatives and professed cathartics, a fact which is in itself sufficient demonstration of the natural and healthy conditions they bring about. In almost all cases of indigestion and acute dyspepsia, the cure they effect is as permanent as the relief they afford is prompt.

## BUSINESS NOTES.

### HOW'S THIS?

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation by their firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O.

WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials free. Price, 75 cents per bottle. Sold by all druggists.

A striking coincidence—That both sides generally claim to have won the strike.

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From our Celebrated Orleans Vineyard.

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### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets. O V Chablis, possessed of all the delicate pungency of its French counterpart.

O V Sauterne, with the exact character and Seve of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.



## BUSINESS NOTES.

ECONOMY FOR THE SAKE OF AN  
EDUCATION.

Better is economy and a good home-made education than extravagance and its concomitant ignorance.

This proverb is home-made, but it will stand the test of analysis.

Meanness is not economy, although economy is often mistaken for meanness, when the circumstances of the case are not thoroughly understood. It is well not to judge too hastily of human action. As in horse racing, it is as well not to shout before the numbers go up.

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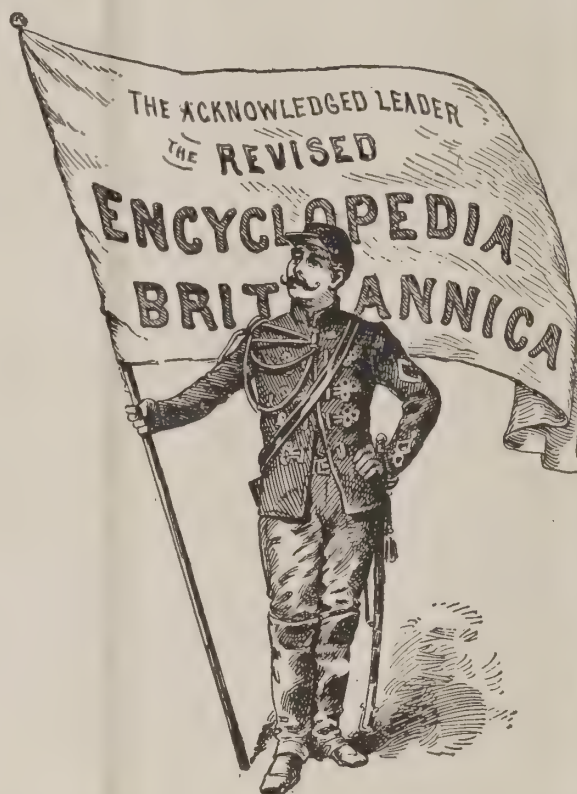
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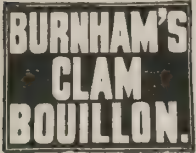
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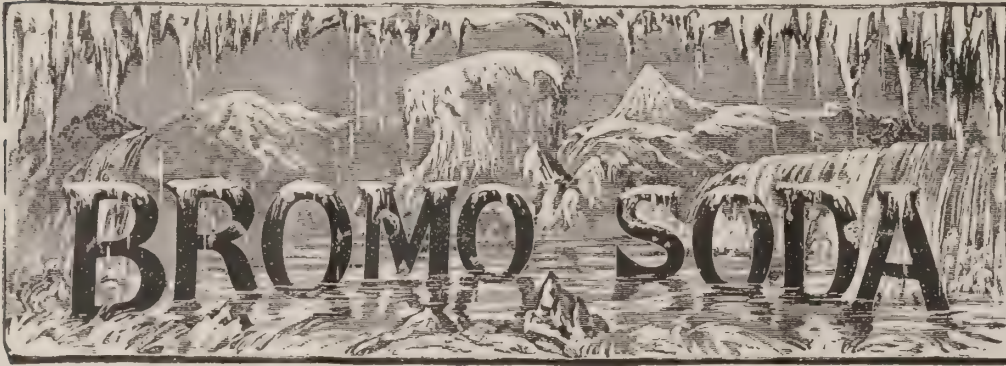
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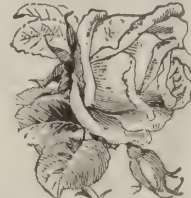
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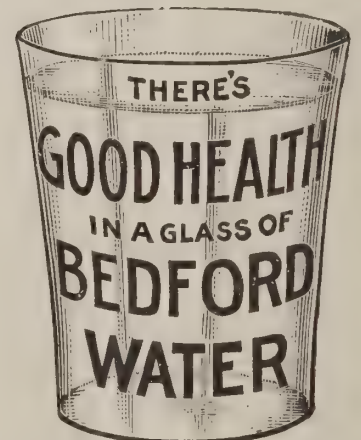
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Single Copies, - - - - - 5 cents.  
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PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place,

New York

JUNE 1, 1893.

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Half a pound of smoked salmon cut into strips. Parboil ten minutes, then lay in cold water for the same time; wipe dry, and broil over a clear fire. Butter while hot, season with a little cayenne and the juice of half a lemon. Pile in a "log cabin" square upon a hot plate. Serve.

#### FISH SAUCE.

Cream a quarter of a pound of fresh butter, add one tablespoonful of finely-chopped barley, a little salt and pepper, and the juice of two lemons.

#### FRICASSEE OF CALF'S LIVER.

Two pounds of liver cut into strips as long as a finger and more than half an inch thick. Dredge the liver with flour, and fry to a light brown. Mince two young onions and a little parsley, and heat them in half a cup of good gravy in a saucepan, add the fried liver, and stew together ten minutes; add a glass of wine. When this is hot, serve.

#### POTATOES A L'ITALIENNE.

Enough mealy potatoes to make a good dish, boiled dry. Whip up while hot with a silver fork. When it is fine and mealy, beat in two tablespoonfuls of cream, one tablespoonful of butter, salt and pepper to taste, the beaten yolks of two eggs. Whip until very light, then add the whites of two eggs that have been whipped stiff. Pile on a pie dish, brown quickly in the oven, slip carefully with a cake-turner to a heated flat dish, and serve.

#### LEMON TRIFLE.

Strain the juice of two lemons and the grated peel of one over a large cup of sugar, and let stand two hours, then add a cup of sherry and a little nutmeg. Strain again and whip gradually into a pint of cream that has been sweetened and well whipped. Serve in jelly glasses. It should be eaten as soon as possible after it is made.

### DO YOU KNOW?

And do you know that half a dozen good household recipes, well applied, are worth the price of at least one coveted Christmas present?

That leather satchels may be cleaned with a sponge dipped in warm water in which a little oxalic acid has been dissolved?

That the same mixture of oxalic acid and water with more acid to the water, will take ink spots out of wood? It should be rubbed on with a cloth.

That a schoolboy's "rubber" will take many a spot out of kid gloves?

That combs and brushes should be quickly washed in warm water and soda?

That lemons may be kept fresh by wrapping them in paper and inclosing in a closely-covered pot or jar?

### THE COOK IN THE ORIENT.

#### CURRY.

Of the many delicious dishes called curries in the East comparatively nothing is known in the great cities of Christendom. When directed to make a curry, the average Western cook prepares a weak stew of fish, flesh or fowl, drenches it with pepper and curry powder and serves it with boiled rice. No matter what the food may be that is curried, his rule changes not. He may at times add a dash of garlic, or a few chopped onions fried—these are simply extras. The dish itself is a poor stew plus curry powder. The cookery books are as bad as the cooks. They give recipe upon recipe, but all when analyzed are merely variations of the stew and powder. Even the dictionaries and cyclopedias are almost as far from the truth. The latest publication (Webster's International, December, 1890) gives the definition of curry as follows:

1. A kind of sauce much used in India, containing garlic, pepper, ginger, and other strong spices.

2. A stew of fowl, fish or game cooked with curry.

This definition is very much like that of the French Academy, which they submitted to the great Zoologist Cuvier for approval. "A crab is a red shell-fish! which walks backward." "Gentlemen," answered Cuvier, "your definition is faultless with the exception that a crab is not red, is not a shell-fish and does not walk backward." So with all due deference to that superb work of lexicography, it must be said that curry is not a sauce and is not a stew.

To properly understand curry, its history must be borne in mind. Though it attains to-day its highest development in Calcutta, Bombay, Madras, Colombo, Batavia, and Bangkok, it belongs to neither these places nor the races which people them. It took its origin in Southern India among the Tamils and Telegus. Its name in the former is *Kari* and in the latter *Kurri*. These words when used to signify food are employed in a secondary sense; in their primary sense both mean a stone for rubbing, grating or grinding. The nearest equivalent in English would be grater. Upon the *Kari*, the Tamil cook grates the spices and vegetables which are the characteristic of the dish into which they are thrown. In other words, a curry is any cooked dish in which the most prominent ingredients are freshly-grated spices or aromatic vegetables. This broad head includes such widely-different dishes as the dry-curries of Bombay, the white curries of Colombo, the red curry of Bangkok, the brown curry of Batavia, and the common yellow curry of Europe and America.

It should be added that both spices and vegetables must be chosen from those which are found in the East Indies. The distinction will prevent confusing curries with the superb dishes similarly prepared in Louisiana and Mississippi by the cre-



ole cook, of which the celebrated "gumbo-filé" is the best example. In these French-American dishes, indigenous spices such as vanilla, allspice, and sassafras birch, and vegetables such as gumbo and tabasco peppers are the characteristic ingredients.

There is no limit to the kind and variety of curries. They range from the solid roasts of Bagdad to the Tamil broth we call Mulligatawny soup. A few illustrations may serve to show how this variety is secured. A Persian cook takes a small chicken or squab, cleans it thoroughly and stuffs it with what may be called a curry stuffing. This consists of boiled rice, grated onion, clarified butter (if the bird is thin), raisins, orange peel, citron, salt, pepper, ginger, coriander seed and poppy-seed. This stuffing will be grayish white when the bird is cooked. To produce yellow, grated turmeric is added. green, grated shalots; and red, picked Chinese ginger. The chicken is baked in a small closed pot instead of a pan. It is served the moment blood does not show when the flesh is perforated and is a dish worthy of the most fastidious bon vivant. The flavor is still further improved by the addition of grated young cocoanut to the stuffing. This though necessary in wet and white curries, is not so in dry curries or curry-soups. At great dinner parties, the Persians and many parsees and others in India apply the same method to kids and lambs with great success. It is said that a sucking pig treated in this manner is simply sublime, but of this I know nothing. It is obvious that this class or style would be inappropriate with such game as canvas-back duck, reed-birds, plover, wild turkeys and others which possess a distinct although a delicate flavor of their own. On the other hand, it is invaluable with geese, muscovy ducks and mallards, whose flavor is not universally popular. Last, it offers endless variety in the case of such tasteless meats as turkey, capon, pheasant, partridge, and prairie chicken.

Dry curries consist of meat served hot or cold with a hot vegetable, usually rice, which has been allowed to absorb curry-sauce but not to the point of saturation. Nearly all vegetables during boiling absorb a certain amount of water during the expansion and breaking down of their cellular tissue. If thereafter they are kept in warm air or steam they lose much of this moisture and are ready to absorb any liquid poured over them. It is particularly true of rice, but applies just as well to wheat, macaroni, millet, oats, barley, rye, maize, buckwheat and to potatoes and yams.

In preparing the sauce, the grated spices and vegetables are thrown into a fluid of some sort. This may be milk, cream, cocoanut-milk, ghee or clarified butter, clarified chicken-fat or poorest of all, water. The mass is stirred until it is perfectly homogeneous and then poured slowly over the boiled rice. When properly done, each grain of rice is uniformly colored and flavored with the sauce, but is so dry as to leave no moisture on the plate. Indian vegetarians and especially the Buddhists of Ceylon eat rice treated in this manner, with edible sea-weed, mushrooms, bean-gluten, gourds and other vegetables. Poor peasants on the coast serve it with sea-snails, cockles, whitebait, shrimps and the other minute forms of marine life.

Wet curries are so common as to be commonplace. Nine times out of ten they are very bad, the liquid being a mixture of various kinds of fat and the spices being a curry-powder, which was grown in the East Indies, transported to London and there in its old age ground into powder, mixed and bottled. The sauce to be good should

be made of cocoanut-milk, cow's milk, clarified butter, grated young cocoanut and freshly ground spices. When it is to be used with eggs or fat meat of any sort, the butter should be reduced in amount. When with substances poor in oil, such as oysters, flatfish or cold tongue, it should be increased. The best combination is cocoanut milk and rich Alderney or Jersey cream. This of course is difficult to obtain except in a few places in the older countries.

The younger the cocoanut the better the curry; the milk of the young nut is rich, mild and sweet. As it ages it turns watery and rank. The meat when young is a thick cream; when old, woody and indigestible. Better use no cocoanut at all, than employ one which insults the palate and injures the digestive system. The "White curries" are nothing more or less than a sub-class of the wet curries, in which the colored ingredients are omitted as far as is possible. The leading ingredients of the sauce are cocoanut milk and meat and cow's milk and cream, salt, white pepper, coriander seed, grated fruit-kernels, white ginger and white mace. If the flavor of garlic or fried onions is desired, these are parboiled in cocoanut milk and filtered or strained out. Similar treatment supplies such flavors as clove, cinnamon and red pepper. The sauce may be poured over boiled rice or thickened with rice flour. The latter course is more to be commended from an artistic point of view. Delicate artistic effects may be produced by throwing on the sauce when served shreds of scarlet chilies, green onion and shalot, and similar substances which possess both taste and a bright color. White curries never burn and are therefore better adapted for children or invalids than any other kinds.

Of curry soups, of which Mulligatawny is the best known example, the subject has been treated in so masterly a manner by the great chef, Thomas J. Murrey, that nothing remains to be said. His brochures on soups and on salads are two chefs-d'œuvre in the literature of culinary art.

Among the substances which are grated are white, black, brown, red and chile peppers; coriander, anise and poppy seed; ginger, green, white, brown, dried, powdered and pickled; turmeric; garlic; onion; shalot; leek; cinamon; cardamom; mace, white and red; nutmeg; mustard; the pits of plums, peaches, cherries and all fruits rich in prussic or other strong perfumes; raisins; currants; cocoanut; orange and lemon peel; soy beans; bay, laurel, peppermint and camphor leaves; cloves; the dried leaves of many flowers.

Probably no cook uses all of these in any one dish, and no two cooks agree upon the same combination for any one dish. Of all the list the pepper family is the most popular; then closely follow coriander, poppy seed, ginger, turmeric, onion and cocoanut. There is no fixed rule about the selection of particular ingredients. If a yellow color is desired turmeric is bound to be employed; if red, then red pepper, red mace, pickled ginger and clove are pretty sure to be called upon and turmeric omitted. Other combinations result from the difference in personal tastes, one man preferring a mild spicy zest and a second a pungent flavor of the fieriest kind. Still further combinations are produced by the predilections of the cook or his employer for one or two particular spices to the exclusion of all others. From these numerous causes spring a variety in curries whose name is not legion, but a vast army.

It was Max Muller who said that "every word is a condensed history." The humble term "curry" is a volume in itself. It tells much more than the fact of two poor races in Southern India, whose daily food was prepared to a large extent upon a

rough and porous rubbing stone. Behind this may be seen other facts: An arid and over-peopled land where famine and drought were perennial visitors; a struggle for existence in which every particle of organic matter, animal or vegetable, fresh or foul, pleasant or nauseating was a possible means of saving and a sure one of preserving life; a search for spices to disguise rancidity, acridity, decay, to strengthen weak stomachs and to resuscitate those who were starving to death; patient wives and little children digging roots and gathering leaves wherewith to give zest to the miserable meal of the husband and father. Then in the new spelling of the word, we see the appearance of a new race, rich, strong and arrogant, which takes the best from the weaker race and converts it to its own use. A wise conversion. Yet it may be questioned if the bon vivant realizes that in the curry he is enjoying, he is simply employing an antiseptic and disinfectant which kindly Nature taught centuries ago to the Telugus and Tamils.—*Hong Kong Telegraph.*

## ADULTERATION.

### ADULTERATED LIQUORS.

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There are two kinds of humbugs which are practiced in this country with commercial enterprise and skill, and the late Mr. Barnum has claimed that his sort is really appreciated and respected by the American people. There has never been any defense of the other sort. The law has wrestled with it and public opinion has fought it, but the humbug has grown steadily in size and influence until it has penetrated every branch of the greatest trade in the world. It is the fraud of the market, and the grocery, and the liquor store—a fraud which deceives a man's table and his larder. In these times of high import duties it has developed into a tremendous business, and in at least one branch it has assumed nearly the size and the mercantile importance of the legitimate trade.

The fraud in liquors is practiced so extensively to-day that the imitation is almost as familiar in some markets as the genuine. The law which gives the manufacturer trade mark and patent rights does not prevent successful imitation of labels and signatures, and the business of the liquor humbug—for it is a business—comes in to take advantage of just that point.

Every known and many unknown brands of imported liquors are put up in this country and sold for the genuine at prices which drive trade from the doors of the dealer who sells honest goods. Perhaps that fact is already well established, and perhaps in a general way the public suspects and looks out for fraud in everything the public buys, but he is a man a good deal shrewder than the most of men who can detect the fraud of the modern liquor humbug, for nowadays the latter uses an artist's care in his trade. He sacrifices the inside of his bottles to ornament the outside with imitation labels that would baffle any cursory observer.

There are six big establishments in this country which furnish bogus goods to liquor dealers. Their plan is simple, and their catalogue is accompanied by the claim that the firm will instruct any new man in the business how to deal in liquors profitably, with minor instruction, as one firm puts it, to "make clear cider without apples, to convert cider into all kinds of wines, to make strong vinegar in twenty-four hours, to distinguish imported from domestic liquors, to make fine colorings for wines and liquors, to



make neutral spirits, to rectify whiskey, to make old barrels look new, to make new barrels look old, to become a successful liquor merchant, to be an expert bartender and to make liquors and wines at very low cost and large profit."

One particular firm makes under its own roof in a Western city the finest wines of France, the famous cordials of Italy, and the popular brands of all kinds of liquors, bitters, and fancy drinks. It sells imitation bottles, labels, corks, brands, cases and wrappings. There is nothing about its trade which is not bogus, but its fraud falls short of infringement of the law because its imitations are not exact within the meaning of the trade mark statute. The other firms are like it.

The favorite brands of French and Italian cordials are the most frequently imitated, because on them the margin of profit is greater than on most other imported drinks. Take, for illustration, the absinthe label and compare it with the original of the famous cordial made by D'Edouard Pernod, the standard drink of absinthe lovers all over the world. The signature is almost the same, but the name is spelled Edouard Perere. The intricate scroll work and the red crosses on the label are all there, and the bottle is blown with the changed name. Even the cork is branded. But the absinthe is not the production of the delicately bitter herbs of Europe, and it is the concoction of a firm of frauds in Cincinnati, having wormwood as its only legitimate basis.

Honest Curacao is made of the little oranges of the Curacao Island. American enterprise has been able to develop native grains and herbs to produce a liquid which looks like it, and tastes tolerably like it, in a bottle which any connoisseur would accept at a glance. There is no such firm as "Maure Brothers" in Bordeaux, but there is a reputable establishment there which brands its goods in nearly the same way. The bogus Curacao sells wholesale for \$8 a dozen quarts and the genuine for \$32.50. A suggestive difference as to quality!

On this side of the water the Getreide-Kummel of J. A. Gilka, made in Berlin, has become a popular after-dinner drink. Two distinct imitations of it are turned out by the gallon each week one under the brand name of F. A. Gerber. In German characters the names look almost alike, and the surrounding scroll work on the label is imitated exactly, even to the additional slip warning the customer against bogus imitations. It is an indication of the placid nerve of the humbug firms that they copy even the remark on the label, which says that it has been copyrighted according to law. The bogus Kummel costs \$3.75 a dozen quarts, and the genuine—Gilka's or anyone else's—costs \$11.50.

When the Italians began the manufacture of Maraschino they made it of peculiar black cherries, jasmine, roses, oranges and flowers, and fermented and distilled it with the greatest possible care. The American imitation is made on Water street, New York, and put up in corn-husk wrappings just like the original. It is made up largely of cherry juice, prune juice and tannin. The name of the only leading firm to-day which sells its goods on this side is Nuyens & Co., of Bordeaux. Only the firm name is changed.

Speaking of its bogus cordials one American humbug says in a recently issued catalogue that "our liquors are guaranteed to be superior to any imported article of the same name made by the original European distillers. We only put them out in imported style because of the existing prejudice in their favor." Then follows a price list of green and yellow chartreuse, purporting to have been put up by "Renau Brothers," of Bor-

deaux, a firm which does not exist. Neither green nor yellow chartreuse can be made in this country, but the American yellow is a fairly good imitation of the genuine. The green is not, either in looks or flavor. After its reference to the purity of its bogus goods the firm quotes the American at \$7 and \$8.50, while the European costs \$26 and \$34.

This sort of liquor is colored with clarifying powders, and the humbug firms offer to send empty bottles, labeled and ready for filling, in case some dealer wants to make his cordials himself. Skeleton cases are the wooden boxes enclosing the bottles, and they are stamped with the same imitation brand as the bottle bears. One catalogue says the skeleton cases are necessary for a window display, and adds: "If a customer questions your goods show him stamped cases in your cellar."

In the wine trade all kinds of bogus brands are kept in stock, but the big humbugs are chary about champagne. They advise their customers that genuine bottles be refilled with American champagne, which they offer to sell, and they deal in corking machines to get around the branded stoppers. "Save your corks and don't damage your labels on popular brands," is the advice of the Cincinnati frauds. Not many good imitations of champagnes are on the market, but one is of the Jules Verne & Co.'s vintage. There is no such establishment in Reims, but the label is just like that of Jules Mumm & Co., except for the last name.

All other wines are put up freely. The famous "Old London Dock" is notorious as having been imitated by each of the six firms already spoken of. Two New York firms make a specialty of furnishing bottles, labels, corks and caps, and they believe in letting the retail dealers do the rest with powders. They recommend him to buy cheap wines by the barrel, and flavor them with the adulterations to suit the taste, offering to furnish any special brand or name desired. This is what they say about the doctored dust which is supposed to flavor light wines: "Considering the many different varieties of wines it is impossible to give specific directions for any one kind, but generally six ounces of our wine essence to a barrel of sixty gallons will be sufficient. This quantity, well mixed with a few quarts taken from the wine to be improved, is returned to the barrel, and the whole well worked several times. For very inferior wines as much as eight to ten ounces of the essence may be required." For "improving" sherry and port as much as two pounds to a barrel is required, but a good deal is left to the retailer's knowledge of the tastes of his trade.

The following remarkable price list, taken from the largest firm's catalogue, shows the range of "essences" for making the well-known brands of beverages opposite each name. It will open the eyes of those who believe in the merit of our trade-mark laws:

	Per Pint.	Per Oz.
Bitters, Angostura.....	4.00	.35
Bitters, Boonekamp.....	4.00	.35
Bitters, Hamburg.....	4.00	.35
Bitters, Herba.....	4.00	.35
Bitters, Lithauer.....	4.00	.35
Brandy, Apple.....	3.00	.30
Brandy, Catawba.....	6.00	.60
Brandy, Cognac.....	6.00	.60
Brandy, Seignette.....	6.00	.60
Cider Vinegar Essence.....	3.00	.30
Cordials, Absinthe, French.....	4.00	.35
Cordials, Anisette.....	3.00	.30
Cordials, Benedictine.....	4.00	.35
Cordials, Chartreuse.....	4.00	.35
Cordials, Curacao, Dutch.....	4.00	.35
Cordials, Kummel, Allash.....	3.00	.30
Cordials, Kummel, Danzig.....	3.00	.30

Cordials, Berl. Getreide.....	3.00	.30
Cordials, Maraschino de Zara.....	6.00	.60
Cordials, Persico.....	6.00	.60
Cordials, Rose.....	10.00	.50
Cordials, Zwetschen.....	3.00	.30
Gin, Holland, superior.....	3.00	.30
Gin, London, Dock.....	3.00	.30
Gin, Old Tom.....	3.00	.30
Gin, Schiedam.....	3.00	.30
Rum, Jamaica.....	3.00	.30
Rum, St. Croix.....	3.00	.30
Whiskey, Bourbon.....	6.00	.60
Whiskey, Malt.....	4.00	.35
Whiskey, Scotch.....	6.00	.60

This gives a dealer a whole apothecary shop which he can use to make up any liquor he wants. His firm will furnish him imitation bottles and labels, or they will send him the genuine "to be emptied and then kept filled." The wine flavors range in price from \$12 to \$4 a pint, and they cover every known variety, with some dissertations on their use in imitating peculiar flavors of "special"—which is the polite term the humbug catalogues use for standard brands. The dealer is also instructed how to make cider, vinegar and Worcestershire sauce with the essences. As an incidental feature of their trade the makers of bogus liquors sell all kinds of fruit essences, glucose, calamus, sulphuric, citric and tartaric acids, grape sugar, marble dust, chemical preparations of amyl, ether and acetic acid, colorings of all shades for all purposes, and a thousand and one things to imitate the honest flavor of grapes and hops and rye and rose leaves. There is nothing on their stock books that is legitimate, and the old monks of Martin Luther's time who broke their backs over their aromatic pots would marvel to taste the concoctions which the modern merchant sells under the names they made famous.

It has been pointed out that the wholesalers of the bogus liquors allow the retailer to do his own bottling if he chooses to. That is only a question of convenience and economy. The bottles and the corks and the labels are all the same, although each of the six large firms do their imitating by different minor changes in the standard labels and styles. For instance, in a bogus brand and bottle of Irish whiskey, purporting to have been put up by E. & J. Burke of Dublin, the most famous of all Irish bottlers of whiskey, ale and stout, the name is spelled E. & J. Rourke, but the label, even to the signature and caution announcement, is a fac-simile of the genuine.

Burke's bottling of Bass and McGuinness is imitated in the same way, but another firm chooses to call it "E. & J. Burk," leaving off the final "e." It is easy to see that the imitation of goods so widely advertised as these would sell as well as the genuine, spelled one way as another, so long as the brand was pronounced the same. How many people could tell how their favorite drink was put up so far as the label went? And how many stop to see whether the final "e" is on the firm name or not? The genuine Burke's Irish costs \$3.50 a gallon more than the imitation, which, it may be remarked, is regarded by the trade as an unusually good one of its kind.

All varieties of imported bitters are made in Cincinnati, but Boonekamp is put up there in the greatest quantity. A firm in New York are the sole agents for Boonekamp in this country, but the Cincinnati firm turn it out under their own name as the importing agents. They even make the two grades just as the rightful manufacturers do, charging \$1.75 a gallon for one and \$1.50 a gallon for another. They sell it by the keg, to be bottled as the retailer decides. The genuine costs \$5.50 a gallon. Angostura bitters—spelled Angostura on the bogus label—is put up the same way at the same cost.



The J. A. Vendt Zonen Schiedam Schnapps are put up with a label declaring that they are made up "especially for export to the United States." The factory is in Jersey City. The bottle is blown with the name spelled F. A. Vendt, and the price of the imitation is one-third of the genuine. Owing, however, to the fact that gin drinkers have cultivated tastes, as a rule, the bogus schnapps have not had a large sale. It can be found on a good many bars, though, for the transient drinker who cares only that he gets the imported liquor when he pays for it.

Old London gin is put up in Jersey City, too, under the original label, which declares that it is made by the "purveyors by appointment to the Peninsular and Oriental and the West Indies Mail Steamship Company." The labels bear dates running from 1790 to 1870 and these figures are largely used by the bogus firms in all their goods. They go in for old dates, three stars, a row of crosses, or some similar mark which would suggest age as well as quality to the uninitiated customer. The Old London gin bobs up now and then, but the genuine is so scarce now that there are not many calls for the spurious. There is a difference of \$15 a gallon in cost.

It is not possible to do more than point out some glaring examples of the frauds and show the general scheme of the enterprising humbugs. It may be remarked, though, that Hennessy's brandy is put up out West as "Hennessy's" and "Hennessy's," that Martini and Rossi's famous importations are imitated under the firm name of "Nartini & Rossi, and that Bell of Nelson whiskey is made outside of Kentucky and sold as the "Belle of Nelson." Not one popular brand has escaped imitation, and it would take volumes to name all the spurious brands and point out marks whereby they could be detected.

There are only two ways for a man to get what he pays for nowadays in the liquor line. The first is to trade with an honest dealer. The second is to learn to know the contents of a bottle as well as he knows the label—*Times*.

#### NOT ALWAYS THE RETAILER.

Here is proof positive that the Massachusetts Health Board prefer to bring cases against the manufacturers and big houses rather than the retailers. Will the *Merchants' Review* make a note of it? If we had a national food law what a scamp-ering to get under cover there would be by the out-of-the-State frauds!

Israel Renaud, a wholesale grocer of Fall River, Mass., was arraigned in the district court on a charge of violating the food laws by selling maple syrup which had been adulterated with glucose. State Inspector McCaffrey and his assistant had purchased a can of the syrup of a retail dealer. He informed them that he had purchased it of Mr. Renaud. The defense made a stubborn fight and contended that the goods were marked as "compound" and not sold as pure, but the court found the defendant guilty and ordered him to pay a fine of \$25 and costs. An appeal was taken and the case will go to a higher court.—*N. E. Grocer*.

#### POISONING BY TINNED BEEF.

A family residing at Chelmsford partook of some American corned beef for breakfast on the morning of Wednesday, March 27. The meat was observed to be slightly moist on the surface and did not drop out of the tin readily. It is also stated that the meat had a "spicy" flavor as of thyme. The mother, who is an elderly lady, about an hour and a half after breakfast com-

plained of feeling giddy, and shortly afterwards persistent vomiting supervened, followed by cramps, spasms and diarrhoea. The father, son, daughter and a maid-servant were attacked shortly after, and for a time the life of the son was despaired of. All have now recovered. Unfortunately the remaining meat was destroyed. This, of course, is to be regretted, as in all such cases the unconsumed portion should be reserved for chemical and bacteriological examination. When examined a few days later the under surface of the tin was found to be corroded considerably more than was the case with the other tins which had been kept a much longer time. In the scrapings of fat from the side of the tin both lead and tin were detected by Dr. Thresh. The symptoms, however, were undoubtedly those of ptomaine poisoning.

#### SOAP ADULTERATION.

The German soap-makers have called the attention of the Prussian Minister of Industry and Commerce to the growing frequency with which adulterated soaps are now advertised. The most common adulterants are said to be starch flour, tallow, spar, common salt, mineral lubricating oil, and water.—*Ph. Era*.

### MEDICAL.

#### DIPHTHERIC POISON FROM APPLES.

Attention is called to the fact that apples stored in cellars or elsewhere are invariably covered with mould or mildew—often invisible, but just as real. The mould consists mostly of microscopic plants, including numerous species of fungi, all of which are more or less poisonous. Physicians say they have traced cases of diphtheria in children to the use of mouldy apples. Mothers are in the habit of giving little children apples to play with, and the babies try to eat them. In such cases the mould should be carefully removed from the apples.—*Troy Times*.

#### SIMMONS' LIVER REGULATOR.

According to *New Remedies*, it consists of the following:

Hepatica.....1 ounce.  
Leptandra.....1 ounce  
Serpentaria.....1 ounce.  
Senna ..... 1½ ounces.  
Mix.

Put the ingredients into 2½ pints of boiling water and let stand eighteen hours, then strain. Add ½ pint good whiskey.

#### BURNETT'S AND CONDY'S DISINFECTING FLUID.

Burnett's Fluid is the officinal solution of zinc chloride, the formula and method of preparation of which may be found in the dispensaries, pharmacies or pharmacopœias.

Condy's Fluid is an English proprietary preparation, and authorities differ as to its exact composition. They all agree, however, that it is a solution of potassium permanganate in water, and the majority, that it is a 2 per cent solution. Its principal use is as a disinfectant; but it has also been employed as a hair dye, turning white hair into a chestnut-brown color. The solution above referred to is of a deep purple color; a green variety has also been made consisting presumably of potassium manganate; the latter

being applicable only as a disinfectant. The variation was probably merely for the sake of cheapness; and it is questionable whether the reason indicated, any longer applies.—*New Ideas*.

#### ANTIDOTE FOR POISONS.

Send at once for a physician, but while waiting for him proceed as follows:

In cases where the other articles to be used as antidotes are not in the house give two tablespoonfuls of mustard in a pint of warm water. Also give large draughts of warm milk or water mixed with oil, butter or lard. If possible, give as follows:

For Bed Bug Poison, Blue Vitriol, Corrosive Sublimate, Lead Water, Saltpetre, Sugar of Lead, Sulphate of Zinc, Red Precipitate, Vermilion.	Give milk or white of eggs, in large quantities.
For Fowler's Solution, White Precipitate, Arsenic.	Give prompt emetic of mustard and salt, tablespoon of each, follow with sweet oil, butter, or milk.
For Antimonial Wine, Tartar Emetic.	Drink warm water to encourage vomiting. If vomiting does not stop, give a grain of opium in water.
For Oil Vitriol, Aqua Fortis, Bi-carbonate Potassa, Muriatic Acid, Oxalic Acid.	Magnesia or soap dissolved in water every two minutes.
For Caustic Soda, Caustic Potash, Volatile Alkali,	Drink freely of water with vinegar or lemon juice in it.
For Carbolic Acid,	Give flour and water with glutinous drinks, or sweet oil.
For Chloral Hydrate, Chloroform.	Pour cold water over the head and face, with artificial respiration, galvanic battery.
For Carbonate of Soda, Copperas, Cobalt.	Prompt emetics; soap or mucilaginous drinks.
For Laudanum, Morphine, Opium.	Strong coffee followed by ground mustard or grease in warm water to produce vomiting. Keep in motion.
For Nitrate of Silver.	Give common salt in water.
For Strychnine, Tinct. Nux Vomica,	Emetic of mustard or sulphate of zinc, aided by warm water

**FRONTAL HEADACHE AND IODIDE OF POTASH.**—A heavy, dull, headache, situated over the brow, and accompanied by languor, chilliness, and a feeling of general discomfort, with a distaste for food, which sometimes approaches to nausea, can generally be completely removed by a two-grain dose of the potassic salt dissolved in half a wine glass of water, and this quietly slipped the whole quantity being taken in about ten minutes. In many cases the effect of these small doses has been simply wonderful. A person who, a quarter of an hour before, was feeling most miserable and refused all food, wishing only for quietness, would now take a good meal and resume his wonted cheerfulness. The rapidity with which the iodide acts in these cases constitutes its great advantages.—*Mass. Medical Journal*.

A bell that could be heard at a distance of 45,000 feet in water, could be heard at a distance of only 656 feet in the open air. Dogs barking on the earth can be heard by balloonists sailing at a height of four miles.



## HYGIENIC.

### SIMPLE TESTS FOR IMPURITIES IN WATER.

The following methods of determining the presence of impurities in water are given by Walling: (1) For organic matter, put a little of the sample into a beader, add two or three drops of dilute sulphuric acid, and color distinctly with a solution of permanganate of potassium. If much organic matter is present, the color of the permanganate becomes discharged almost immediately; if less or very little, it takes longer to decolorize. If the color has not changed in twenty-five or thirty minutes, it is safe to assume that organic matter was not present. This is a tolerably reliable test. (2) For nitrites, a little sulphuric acid added to the water forms nitrous acid if nitrites are present, which is easily detected by its power of liberating iodine from iodide of potassium. A little starch paste is mixed with a small quantity of a solution of potassium of iodide, and the mixture added to the suspected water containing the sulphuric acid. If nitrites are present, the nitrous acid formed liberates the iodine from the iodide, which turns blue with starch. This indirect method is a ready means for detecting the nitrites if present in not too small a quantity. (3) Nitrates are detected by converting into nitric acid, which turns morphia red. A portion of the water is evaporated to dryness, and the residue treated with a drop of strong sulphuric acid (which makes nitric acid of the nitrate) and a portion of morphia added. If nitrate is present the morphia gives red color. (4) For ammonia, Nessler's reagent is by far the best test. It may be made by dissolving eighteen grains of oxide of potassium in a little water, adding solution of mercuric chloride until the red iodide of mercury first formed redissolves upon agitation. To this is added a solution of fifty grains of caustic potassa and distilled water to make eight ounces. This reagent will detect 0.00375 of a grain in a pint of water by giving a yellow color. A reddish color or precipitate forms with larger quantities of ammonia. (5) Albuminoid matter requires a more elaborated procedure for its detection. If all of the above were found it is hardly necessary to go to the trouble of looking for albuminoids; the water would be unwholesome even if they were not present.—*Pharmaceutical Era*.

### REFRIGERATORS.

No amount of medical advice or injunction seems able to make any impression on some people. Their imaginations are too torpid to picture to themselves the processes which the physician describes. Only when, by some magic, they can see sewer gas, or the exhalations rising from broken garbage, etc., and the disease springing from the germ, will they have any real conception of the dangers they so often voluntarily or willfully incur. At present, they seem to prefer to attribute disease to every conceivable cause but the right one.

We have to take many things in this world on trust, and there should exist on the part of the public a disposition to defer to the statements of rightful authority. In every walk of life we are called upon to exercise some degree of faith, and medicine is no exception. Medical science is not perfect, but some things it knows, and when it makes an assertion with regard to matters which have been studied so long, so patiently, so keenly, and by so many observers, as its subjects have, its word must surely be entitled to close obedience.

When the physician tells the average housekeeper that her ice-box will be a source of danger unless she uses greater care, she very likely listens politely, but forgets his injunctions before he is out of sight. Like her mother before her, she has found a single ice-chest of old-fashioned pattern sufficient for her wants, and she cannot understand the need of an extra one, or the advantages of "any of those 'new-fangled' arrangements." And she goes on putting what remains from her "boiled dinner" into the chest with uncooked meats, fish, fruits, custards, milk, etc.; in fact, therein she stores everything in the way of foods, animal or vegetable, sweets or acids—which are likely to spoil unless kept on ice.

The day's supply of milk, when received, is generally poured out from the can into a pitcher, and from that is used as needed. As might be supposed, the damp air within the box, if the latter is of the usual construction, soon becomes foul with the products of the changes going on in the contents. Not only is there no ventilation—for it is built as tight as possible—but not infrequently the economical housekeeper, to save ice, keeps some thick covering, as a blanket, over the chest. Hence, the air within is soon such as to hasten decomposition, which must be, to a certain extent, continually going on, notwithstanding the ice. The foul, stagnant air is absorbed by the foods—with greater rapidity by some than by others—and they are soon really unfit to eat. Milk, especially, absorbs impure air almost as readily as a sponge does water. It need not long be kept as we have described before it is absolutely unwholesome. When it has but slightly changed it might possibly be used by some people with powerful digestion without causing uncomfortable symptoms; but to feed a baby milk so slovenly kept is a sin, and to that grave error may be attributed many cases of cholera infantum. There is good reason to believe, also, that milk which has undergone some changes due to some such faults as we have referred to, is the actual cause of the majority of cases of cholera morbus.

The subject of ice-chests is one of infinite importance, and deserves exhaustive treatment. It has merely been touched upon and yet enough has been said to "set people to thinking." I will simply add that there is reason to believe that the practically air-tight ice-chest will soon be, and rightly so, a thing of the past, and it will be replaced by ventilated chests, so constructed that the air within them will be comparatively dry, continuously renewed, and of nearly constant temperature. Refrigerators possessing many of the essential qualities have already been placed upon the market. They may well engage the attention of experimenters, for the health of a family in no slight degree depends upon its ice-chest.—*Boston Journal of Health*.

### DIGESTIBILITY OF FARINACEOUS FOODS.

These enter so largely into the dietary of all invalids, that nurses and others should know that they are not all equally able to be digested. Experiments have lately been made on the different starchy foods, as to the rapidity with which they digest when treated by malt and pancreatic preparations. One gramme of each of the following starches and meals was boiled and made up to 100 c. c. with water. In each case the effect of 1 c. c. of pancreatic essence on the mucilage at 100 deg. F. was noted, a dilute solution of iodine, placed in drops on a white slab, being used as an indicator:

Indian Corn.—After digesting three hours with the pancreatic essence still gave a distinct blue

with the indicator. Twenty hours, digestion appeared to have no further effect.

Wheat.—Distinct blue after two hours' digestion.

Rice.—Distinct blue after two hours' digestion.

Tapioca.—After half an hour's digestion gave only a faint green with the indicator.

Arrowroot.—Ceased to give a blue in ten minutes.

Potato.—Ceased to give a blue in ten minutes.

Oatmeal.—Gave a scarcely visible blue after digesting eighty minutes.

Wheat Flour.—After two hours' digestion gave a very faint blue.

Potato Flour (2 grammes).—Ceased to give blue in ten minutes.

Thinking that prolonged boiling might have some effect on the convertibility of starch, some experiments were instituted to test the point. Solutions of arrowroot and corn starches were brought to the boiling point in one case and in the other boiled for ten minutes. The time required for digestion was, in each case, the same, i. e., the arrowroot ceased to give a blue in ten minutes and the corn still gave a blue after three hours' digestion. These experiments were repeated with malt extract and point to the following conclusions:—Arrowroot and potato starches are the most readily converted into sugar by the amylolytic ferments. They are, therefore, the most suitable for testing malt and pancreatic preparations. Arrowroot and potato starches are the best for weak digestions. Chemically there seems to be no difference in digestibility between low priced and high priced arrowroots, nor between the latter and potato starch. Root starches are more digestible than seed starches. So long as starch granules are burst, further (limited) boiling does not render them more digestible. In further experiments it was found that the addition of either acid or alkali to the pancreatic juice retarded the conversion of starch, but with saliva in the absence of either the conversion took place in four minutes.—*Pop. Med. News*.

## INVENTIONS, SCIENCE, ETC.

### HOW OLD IS MAN?

[Rene Bache in *Boston Transcript*.]

How old is man on the earth? The question came up for discussion among members of the National Academy of Science last week, because a revolution has recently taken place in the scientific theory on this subject. In fact, the belief held hitherto has been turned upside-down, the best evidence now at hand going to show that the speaking and fire-using animal classified by Linnaeus as *Homo sapiens* may not have lived more than 20,000 years ago, and probably did not exist 50,000 years B. C.

The glaciers are appealed to for testimony on this subject. It is reckoned that the first ice invasion of the Pleistocene, which spread a frozen sheet over this continent as far south as New York City, occurred about 200,000 years ago. Subsequently there were animals in North America wholly different from any that are found here now. The mammoth and the mastodon roamed through the forests in herds. There were camels, elk of enormous size, musk oxen, and giant beavers six feet long. This ancient fauna has entirely passed away; the strange beasts mentioned are extinct species. If when they existed man had lived on the earth, the rocky strata enclosing their fossil remains would almost certainly yield some human bones or relics. As a matter of



fact, none such have ever been found thus associated.

On this continent human bones and implements have been found associated with the remains of modern animals, such as have existed here since the last ice-sheet was withdrawn, 7,000 or 8,000 years ago. But, on looking across to the Old World, evidence of a different sort is discovered, pointing in the same direction. The valley of the Nile was one of the earliest regions on the earth to be inhabited by man. Every year the flood of that river leaves a thin deposit of mud covering the land. By digging a hole in the ground, the successive annual overflows can be clearly traced back for century after century by the layers superimposed one upon another. Thus at a depth of 1,000 layers is the surface level of 1,000 years ago. Now, excavations made at great expense for scientific purposes have not disclosed any human relics at a greater depth than 15,000 layers, or years. Below that point the strata are barren.

Until recently it has been supposed that people in the Stone Age devoted infinite labor to the production of their implements. A stone axe was imagined to be the result of the toil of generations. If a man began to make such a tool in early youth and lived to see it finished by his grandson, he might die happy. This notion is now exploded. Not long ago J. D. McGuire set up a little workshop in the National Museum and proceeded to manufacture primitive tools of flint and other kinds of stone with no other means than such as the earliest savages had at hand. He proved that he could turn out a first-rate stone axe in two hours, though he might have done better if had had as much practice as the tool-makers of the Stone Age. The latter did not pick up fragments of rocks at random for their purposes. They selected from the nearest stream pebbles which were not far from the shape they wanted, and pecked at each one with another pebble until it assumed the required contour, finally grinding the edge on a piece of sandstone, if desired, and perhaps contributing a final polish by rubbing with sand and water.

The scientists holding the belief that man is a very ancient animal on earth, have referred for evidence to numerous caves in Southern Europe and elsewhere, which were doubtless inhabited by many generations of human beings for the sake of shelter and security. These caverns contain great numbers of human bones and primitive tools, which, it is alleged, have been found in numerous instances mixed with fragments of skeletons of the huge cave bear, the sabre-toothed tiger, the woolly rhinoceros, the giant beaver, and even the *elephas antiquus*, which was the ancestor of the mammoth and the elephants of today. The flooring of ashes from ancient household fires in these caverns is sometimes as much as twenty feet thick, representing the accumulation of hundreds if not thousands of years. Scattered about the ancient hearths are ever so many bones of men, women and children, which bear not only traces of fire, but marks of instruments employed to split them lengthwise for the purpose of getting at the marrow. Thus it would seem that these savages of antiquity were cannibals.

In these caves testimony is found of many murders committed thousands of years ago. Skulls of women cleft by sharp weapons prove that they often were victims of savage violence. One such cranium of a female bears the marks of three penetrating wounds. The fact that two of them exhibit signs of having healed shows that she recovered only to succumb to a third assault. The ancient occupants of the caverns appear to have

depended for food chiefly on the meat of reindeer, which in their time were as plentiful in the south of Europe as sheep are now. Reindeer horn was their earliest raw material, employed for manufacturing purposes. They fished with hooks made of splinters of bone pointed at both ends. Twenty pounds of the bones of water rats, half roasted, were dug up in a single cave at Chaleux, from which it is inferred that these animals contributed to the food supply in times of scarcity. It has been alleged that the dwellers in the caverns used the lower jaw-bone of the cave bear as a weapon, the great canine tooth serving as a point with which deadly blows could be struck.

Some of the caves were regular factories for making tools and weapons. From the one at Chaleux 20,000 flint hatchets, daggers and knives have been obtained by digging. A workshop of this kind in Perigord was devoted to the making of spear-heads, while another confined itself to fabricating tools of reindeer horn. Curious whistles were turned out from the first joint of the reindeer's foot. Many of the implements and weapons discovered were rudely decorated with representations of fishes, of reindeer, and even of mammoths. There were hunting scenes carved in bone and horn, in which men were shown in pursuit of game or in conflict with beasts. One carving is a landscape, with reindeer browsing in admirable perspective. The British Museum owns a supposed Paleolithic poniard of reindeer horn, with a handle carved in the form of a reindeer, which would not be unworthy of modern art. The trouble with these works of art is that they are entirely too admirable. It is now believed that they are all of them frauds. Scientists are often credulous in proportion to their enthusiasm, but the limit of credulity is passed by Paleolithic carving in perspective. No modern savages have the slightest idea of perspective. It represents the very latest development of artistic culture. Even the Chinese and Japanese possess no notion of it worth mentioning. Undoubtedly the objects described were fabricated by ingenious persons for the purpose of supplying an urgent and profitable demand. For a small collection of them which included the poniard referred to, the British Museum paid \$1600 not many years ago. The testimony as to the discovery of them in the caves was as readily manufactured as the things themselves.

What sort of animal was the immediate ancestor of the speaking and fire-using creature called man? That is the question asked by science. There is a beast at present upon earth that is very like man. It is the chimpanzee, which may be called the man-like ape par excellence. So closely is it related to man that there is almost no gap between man and the chimpanzee anatomically or intellectually. Professor Huxley has found that there is much less difference between the skull of this ape and the lowest type of human skull than there is between the lowest and highest human skulls. The same is true of the brains. Likewise there is less difference in intellectual capacity between the chimpanzee and the lowest savage than between the latter and the highest human type. It is often asserted that the ape differs from man in the fact that it is not susceptible of improvement by education. That is not true. The chimpanzee can be taught to do many things in human-like manner. If the animal were instructed through generations, it would doubtless develop a surprising degree of intelligence. Even the comparatively degraded monkeys of India, which have been long domesticated, are taught to sit at table and to use finger-bowl and napkin with much dexterity.

At the same time, it is not imagined that man is descended from the chimpanzee. Both are believed to be derived from a common ancestor. That progenitor is the long sought missing link—a man-like ape of whose species no remains have ever been found. That the creature will be discovered some day in fossil shape is not unlikely. Many of its kind must have fallen into the water and been drowned. That is the way in which animals are usually fossilized and preserved. Sinking to the bottom, their bodies are covered up with mud, which subsequently hardens into rock. At length the water dries up and the fossil remains are dug out. Animals which die on the land are destroyed by decay or by other creatures which devour their carcasses. The reason why the missing link has not already been found is that he is too recent. The water in which his fossilized representatives lost their lives, or into which their bodies were carried by streams and floods, has not had time to dry up and disclose them to view.

Science declares that on the earth there will never be a higher species anatomically than man. Evolution on the old lines has stopped. It is now going ahead on the intellectual plane. The lower animals develop as man wants them to, or they die out. Man is exterminating all animals for which he has no use, and is domesticating the few remaining ones. He is wiping out all plants which are not valuable to him, and is cultivating those which he can utilize profitably. The "Rev." Sam Jones asks, "Do you know anybody who ever saw anything evolve?" The question shows that he has failed to consider the breeding of animals by man, who, by utilizing the processes of evolution, has transformed the ravenous wolf into the faithful dog, and has created a score of varieties of pigeons from the wild and unornamental Blue Rock. Evolution still goes on but under control by man.

The anthropologists say that 500 years hence man will be far more intellectual than he is now. He will be more vigorous physically, and will enjoy a longer life, because he is making a study of health laws. The female of his species will be handsomer, because life will be more easy for her. Comfort and ease are the conditions which produce beauty in woman; savage women are almost never pretty even in youth, because they work hard and live roughly. Through the aid of the telegraph and modern means of rapid locomotion, man has become almost independent of time and space. The earth is now what he chooses to make it. If lands are non-productive he fertilizes them. If the climate is not suitable for growing the products of the soil which he requires, he alters it by conserving the solar heat under glass. It is not unlikely that substantially all the northern part of New Jersey will at no distant day be under a glass roof, for the purpose of supplying New York with vegetables, fruit and flowers.

An interesting exhibit at the National Museum shows the physical ingredients which go to make up the average man, weighing 154 pounds. A large glass jar holds the 96 pounds of water which his body contains. In other receptacles are three pounds of white-of-egg, a little less than ten pounds of pure glue—without which it would be impossible for him to keep body and soul together—34½ pounds of fat, 8½ pounds of phosphate of lime, one pound of carbonate of lime, three ounces of sugar and starch, seven ounces of fluoride of calcium, six ounces of phosphate of magnesia, and a little ordinary table salt.

Divided up into his primary chemical elements the same man is found to contain 97 pounds of



oxygen—enough to take up under ordinary atmospheric pressure the space of a room ten feet long, ten feet wide and ten feet high. His body also holds fifteen pounds of hydrogen, which, under the same conditions, would occupy somewhat more than two such rooms as that described. To these must be added three pounds and thirteen ounces of nitrogen. The carbon in the corpus of the individual referred to is represented by a foot cube of coal. It ought to be a diamond of the same size, because that stone is pure carbon, but the National Museum has not such a one in its possession. A row of bottles contain the other elements going to make up the man. These are four ounces of chlorine,  $3\frac{1}{2}$  ounces of fluorine, eight ounces of phosphorous,  $3\frac{1}{2}$  ounces of brimstone,  $2\frac{1}{2}$  ounces of sodium,  $2\frac{1}{2}$  ounces of potassium, one-tenth of an ounce of iron, two ounces of magnesium, and three pounds and thirteen ounces of calcium.

Calcium at present market rates is worth \$300 an ounce, so that the amount of it contained in one ordinary human body has a money value of \$18,300. Few of our fellow citizens realize that they are worth as much intrinsically. What makes this metal so costly is the difficulty of separating it from the elements with which it is found combined in nature.

It seems odd to know that four of the constituents of the human body will take fire by spontaneous combustion. Everybody knows how quickly phosphorous will do that when dry. A scrap of sodium, on being thrown into hot water or upon ice, will burst into a rosy flame. Potassium acts similarly, but with greater violence. On touching water it flames up and at length explodes, throwing a fountain of sparks into the air. Magnesium, which is used in the form of powder for flash-lights by photographers, is so readily and fiercely combustible that it has to be kept tightly corked in bottles.

#### WHEN COAL WAS FIRST USED.

WOOD AND CHARCOAL WERE THE FUELS WHICH PRECEDED IT.

Though coal had been employed for centuries in the manufacture of salt on the shores of the coal fields, wood had hitherto continued to be the fuel at the inland salt works. The use of coal at Nantwich is mentioned as a novelty in 1656; at Droitwich wood fuel and leaden pans were in use up till 1691. In this era the sea salt manufacture was in the zenith of its prosperity. But the substitution of coal for wood in the inland salt trade, aided by the discovery of rock salt, which took place accidentally in boring for coal in Cheshire, 1870, led to the gradual decline and final extinction of the manufacture of salt on the coast. The only traces now remaining of this once flourishing industry exist in such names as Howdon Pans on the Tyne, Prestonpans on the Forth, Saltcoats in Ayrshire and Saltpans in Arran and Kintyre, or in the Scottish proverb, "Carry salt to Dysart," synonymous with the English "Carry coals to Newcastle."

In no branch of industry was the scarcity of wood more keenly felt than in the smelting of metalliferous ores. Continued efforts to accomplish this with coal began immediately after the accession of James I and were persevered in throughout the seventeenth century. But for a prolonged period the new fuel proved highly intractable, and scheme after scheme ended in failure and disappointment.

After eighty years of oft-repeated trials the tantalizing problem remained unsolved. Wood and charcoal still held the field in the smelting furnaces, and all hope of ever seeing coal substituted for them had well nigh died out. In 1688 Sir John Pettus, in his "Essays on Words Metallick," concludes his observations regarding sea coal and pit coal with the remark, "These are not useful to metals."

The unpromising prospect, however, soon began to brighten. Immediately after the revival of lead and copper mining, which took place about 1692—having probably been more or less in abeyance since the interruptions occasioned by the civil wars when

The fisher left his skiff to rock  
On Tamar's glittering waves;  
The rugged miners rushed to war  
From Mendip's sunless caves.

—these ores came to be smelted with coal. The extraction of silver from lead with coal was accomplished by a Mr. Lydal in 1697, and the same individual appears to have been the first to successfully employ coal in the smelting of tin, in 1705.

The ores of iron proved more refractory, no substantial and permanent success in smelting them with coal being obtained till near the middle of the eighteenth century, when the manufacture of charcoal iron had dwindled to very small proportions—in fact, was dying out for want of fuel.

It then at length became an accomplished fact at Coalbrookdale Iron Works in Shropshire. The success was at first ascribed to the Shropshire coal, but probably the employment of a strong blast had a great deal to do with it. From this the coal became the life of the iron manufacture. The ci-devant drooping trade rapidly revived, and the latter part of the eighteenth century saw coal iron furnaces in successful operation throughout the kingdom.—*Contemporary Review*.

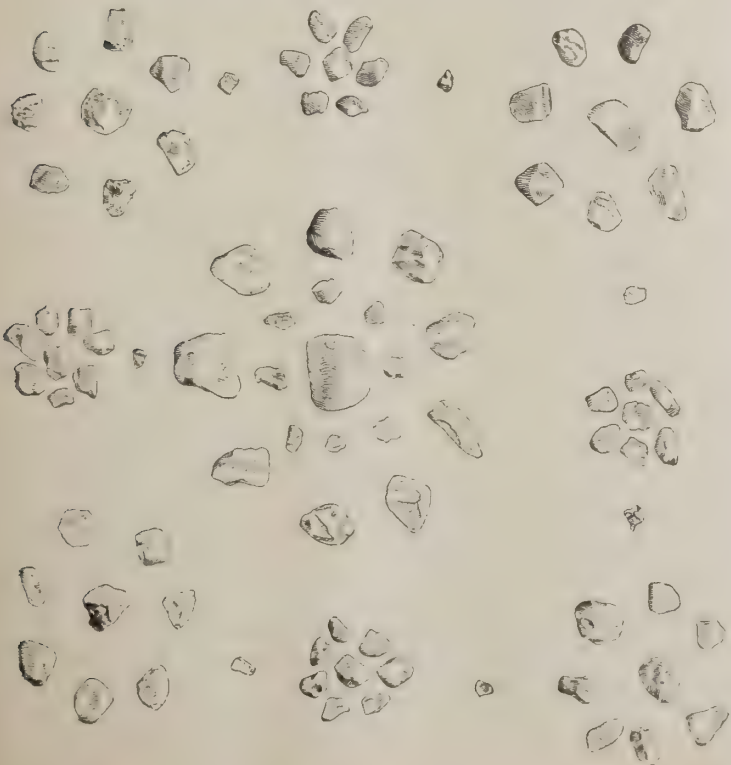
#### FOR TIRED BRAIN

Use Horsford's Acid Phosphate. Dr. O. C. Stout, Syracuse, N. Y., says: "I gave it to one patient who was unable to transact the most ordinary business, because his brain was 'tired and confused' upon the least mental exertion. Immediate benefit, and ultimate recovery followed."

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alchemy there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## IF GOING TO THE WORLD'S FAIR.

During the Exposition of '76 in Philadelphia, wide-spread alarm was occasioned by a supposed epidemic of serious and frequently fatal disease among the multitudes congregated there. That many persons were dangerously sick, and some died, was beyond question, but the cause admitted of question. The Schuylkill water was of course blamed for it, but really that supply was no viler than usual. The drains in the Exposition grounds were also said to poison the air, but that was only the freakish fancy of some newspaper correspondents. Finally it was clearly established that the real causes of the trouble were in the changed habits and almost suicidal conditions of living temporarily assumed by the people themselves. The fatigues and exposures of travel, extraordinary excitement, irregular feeding and unaccustomed food, change of water, reckless indulgence, when heated, in cooling drinks, and insufficient sleep, were the prolific causes of grave indispositions. Indeed, they could not be otherwise, since their evil influences were directly operative upon the digestive functions, upon which the healthfulness of the entire animal economy is dependent. Inaction of the bowels—a primary symptom—would be quickly followed by torpidity of the liver, and that by the derangement of the faithful kidneys, overtaxed by the exertion of doing the work of the liver as well as their own. Dysentery, bilious fever, and various other maladies, were immediate consequences, the break-down naturally coming in those organs already weakest. Precisely

## A Tonic

For Brain-Workers, the Weak and Debilitated.

### Horsford's Acid Phosphate

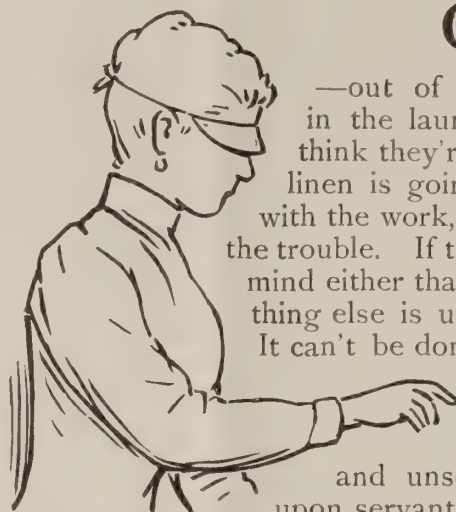
is without exception the Best Remedy for relieving Mental and Nervous Exhaustion; and where the system has become debilitated by disease, it acts as a general tonic and vitalizer, affording sustenance to both brain and body.

Dr. J. C. Wilson, Philadelphia, Pa., says: "I have used it as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.



## Out of sight

—out of mind. That's the way with things in the laundry and the kitchen. Perhaps you think they're using **Pearline** there. And your linen is going to pieces, and you're dissatisfied with the work, and you're blaming **Pearline** for all the trouble. If this is the case, you can make up your mind either that **Pearline** isn't used, or that something else is used with it, which does the damage. It can't be done by **Pearline**.

You'll probably find that they're trying to wash with some of the imitations that peddlers, prize-givers and unscrupulous grocers are palming off upon servants and some others who can't see the danger. Look into the kitchen for yourself and see that they use **Pearline**.

**Send it Back** Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as **Pearline**." IT'S FALSE—**Pearline** is never peddled, and if your grocer sends you something in place of **Pearline**, do the honest thing—*send it back*.

347

JAMES PYLE, New York.

the same conditions will, this spring and summer, affect many ten thousands of persons in attendance upon the Chicago World's Fair, and, even if the normal local conditions there could be ten times more healthful than they are at all likely to be, the dangers would still be enormous. To a very great extent the peril may be averted by more than ordinary care to maintain the activity of the digestive and eliminative organs. Of course many will still make themselves sick by nervous excitement, irregular hours and exposure, but all those causes together will not induce so much serious illness as is inevitable from neglect of the bowels. And it will not be safe to wait until disorder in that direction declares itself with sufficient vehemence as to compel attention as a personal consideration even more important than the whole World's Fair. This is a matter in which an ounce of prevention is worth a great many pounds of cure. A big dose of some violent purgative when you feel that you *must* take it, will probably afford a sense of temporary relief, but will not eliminate the mischief already done before your recognition of the necessity became imperative. If the purgative is also an effective cathartic it may do more good, and if you are naturally of sound constitution and marked recuperative power, you may come through all right. But, your most sensible course will be to keep yourself well, by such continuous and effective stimulation of the organs of elimination, secretion and excretion as will ensure their regular and healthful action. For this purpose, a thoroughly reliable "after dinner pill" is to be most highly commended; one that will do the service just indicated, without operating as a physic, without your even being conscious that it is doing anything, and without the annoying and even dangerous reaction to costiveness, produced by many medicines employed in this manner. The only pill that can be unqualifiedly endorsed as meeting these requirements is "Ayer's Compound Cathartic Pills." One taken after dinner daily, will stimulate digestion, maintain normal activity of the bowels, and keep the liver and kidneys properly at work; while, taken as prescribed, they are the most effective and valuable physic known. No person should start for the World's Fair without a box of Ayer's Pills in his possession.

## BUSINESS NOTES.

\$100 REWARD \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages and that is catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of Testimonials.

Address F. J. CHENEY & Co., Toledo, O.

Sold by druggists, 75c.

EGOTISM.—One man tells about "my dog" and another about "my baby." Egotism has many variations.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Harcourt & Co.*

Producers of the

**ECLIPSE**

CHAMPAGNE,

530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets.

O V Chablis, possessed of all the delicate pungency of its French counterpart.

O V Sauternes, with the exact character and Seve of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.



## MISCELLANEOUS.

## CORONER.

WHO AND WHAT IS HE?—ORIGIN OF THE OFFICE.

The office of coroner is one of the most ancient known to English history. When it was instituted it was a post of very high honor, as the coroner was a conservator of the peace and was known as a ministerial deputy of the Crown. At first only prominent knights were chosen, and afterward judges of exalted position attained to the dignity, but the office was held in great repute. In his ministerial capacity the coroner was authorized to serve writs when the sheriff was incapacitated from any cause, or when the process was against the sheriff himself, and he had the right within the county for which he was elected to apprehend a felon without any warrant. These functions he still retains in England and in most of the United States. In his judicial capacity his chief duty in later years is to inquire into the manner of the death of any person who is slain or dies suddenly without previous medical attendance, or is executed as a criminal. The duty of making inquiry into shipwrecks and guarding any property saved for the lawful owners, once considered as of much importance, is not generally assigned to this officer, although we think he might lawfully undertake it as properly included in the terms of his appointment.

Owing to the neglect of their duties at first by the noblemen and persons of high degree who held the office, and later on by the freeholders who had the right of election, the office fell into great disrepute in England, and according to Blackstone "got into low and indigent hands." There is nothing more comic or farcical in the whole range of literature than the records of coroner's inquests. In later years men of greater intelligence have been selected, but for many generations these officials and their action was the laughing stock of the community. The "returns" of the inquisitions presided over by the coroner during the lifetime of several generations are as full of burlesque as any farce ever acted upon the stage, and the "coroner's 'quest'" was a universal byword and a synonym for all that was ridiculous in official action. All the wits leveled their keenest shafts at the coroner and his jury, and satire itself seemed never weary of making them the butt of ridicule.

The American colonies borrowed the office from the mother country, and have done little or nothing to improve on the character of the performance. No one can read the history of a coroner's inquest and not feel that it lacks all the essential elements entitling it to command public respect. With rare exceptions, hardly sufficient to prove the rule, it is a series of stupid blunders from beginning to end, the composition of the final verdict furnishing no relief to the general tone of the picture.—*Journal of Commerce.*

## WHAT IS WHITE LEAD?

The white lead of commerce is the carbonate of lead, by far the greater portion of which is produced by what is termed "the old Dutch process." Certain forms of blue lead, or metallic lead, are cast in molds. These forms are suspended on ledges in earthen pots, each pot containing a little vinegar, or more strictly speaking, acetic acid. These pots are ranged to the number of five or six hundred, each containing the lead and vinegar, upon a bed of spent tanbark, mingled with a little stable litter; the whole is then covered over with boards, another layer of

tanbark is placed on top, then another layer of pots containing lead and vinegar, and so on until eight or ten layers are built up within the walls of a chamber about twenty-five feet square. The spent tanbark begins to ferment, or more properly speaking, a mild spontaneous combustion begins to take place in the tanbark. This generates heat, which causes the moisture in the tanbark and the vinegar in the pots to evaporate and mingle as vapors, at the same time acting upon the lead. The action of the moisture and the vinegar vapors in connection with the oxygen, form an obscure double compound of basic acetate and hydrated oxide of lead. At the same time the combustion of the tanbark produces carbon dioxide, which, acting on the basic acetate and hydrate, forms a carbonate. This process goes on for a period ranging from seventy-five to one hundred days, when the metallic lead has become nearly exhausted and nearly all turned into the carbonate of lead. The resulting carbonate is then separated from the remainder of the blue lead, ground in heavy stones with water, floated away in the form of a milky liquid, pumped into large tanks, and there allowed to settle; after which it is usually drawn upon pans to dry. This forms the dry white lead of commerce.

The white lead of commerce consists of about 70 per cent of a true carbonate, and 30 per cent hydrate of lead. This hydrate of lead has an action upon linseed oil similar to the action of hydrate of soda or hydrate of lime, but it is not a forcible in its actions as the last mentioned hydrates. Nevertheless it does act forcibly on the oil, forming a true chemical emulsion or soap. This chemical action between the lead and oil continues as long as there is any lead or oil or both, present to form the action, and hence pure white lead always becomes dusty in from six to eighteen months after its application; the time for this combination varying according to the circumstances and the age of the lead.

The hydrate of lead is a very sensitive chemical compound, is acted upon very forcibly by the domestic gases, or, more properly speaking, by those gases which are always present in thickly populated localities, and more especially about stables, out-houses, etc., and where the human race, as well as animals, are domiciled.—*O. H. Goodell in White Lead and Its Substitutes.*

## HOW SCISSORS ARE MADE.

Though no complexities are involved in the making of scissors, or much skill required, yet the process is very interesting. They are forged from good bar steel heated to redness, each blade being cut off with sufficient metal to form the shank, or that destined to become the cutting part, and bow, or that which later on is fashioned into the holding portion. For the bow a small hole is punched, and this is afterward expanded to the proper size by hammering it on a conical anvil, after which both shank and bow are filed into a more perfect shape and the hole bored in the middle for the rivet. The blades are next ground and the handles filed smooth and burnished with oil and emery, after which the pairs are fitted together and tested as to their easy working. They are not yet finished, however. They have to undergo hardening and tempering, and be again adjusted, after which they are finally put together again and polished for the third time. In comparing the edges of knives and scissors it will be noticed, of course, that the latter are not in any way so sharply ground as the former, and that, in cutting, scissors crush and bruise more than knives.—*World's Progress.*

## FLIES ON A SPREE.

Close observers have noticed that flies would gather on a half-drunken, sleepy sot, while a dozen sober men in the same room are not molested by them. The flies will buzz around their subject with great delight, frequently alighting upon his perspiring face. Off they go and return again and again, quaffing the alcoholic nectar issuing from his pores. After a while their flight becomes uncertain and eccentric, and sometimes they come in collision.

Recently a drunken man raised his hand and brushed them from his face. Some fell to the floor and lay there paralyzed. After a while they got on their feet and wearily flew off, half dazed. Many animals yield to the seduction of rum drinking, especially elephants, horses, cows and swine. Poultry, especially turkeys, will absorb the tempting drink till they tumble over in leaden sleep, lying around as if dead, and utterly ignoring their accustomed roost. On awaking they stagger for a few moments and soon recover, but it is hours before they renew their cheerful cackling.

EFFECT OF COLOR ON WALLS, ON LIGHT.—Recent experiments by an expert are said to show that with different decorations a room would be equally lighted by the following candle-power: Black cloth, 100; dark-brown paper, 87; blue paper, 72; clean yellow paint, 60; clean wood, 60; dirty wood, 80; cartridge paper, 20; whitewash, 15. Only about one-sixth as much illumination is necessary for the whitewashed room as for the same room papered in dark-brown.

**The Question**  
is a simple one—easily  
decided by reason and  
common sense.

**COTTOLINE**

—the new scientifically  
prepared shortening — is  
made from pure beef suet,  
and highly refined vegetable  
oil. Lard is made, in  
the majority of cases, in  
the packing-house, and  
not as of old, from the pure  
leaf of the hog. Which is  
likely to be the most  
healthful? Decide for  
yourself. It must be

**COTTOLINE**

Send three cents in stamps to N.  
K. Fairbank & Co., Chicago, for  
handsome Cottolene Cook Book,  
containing six hundred recipes,  
prepared by nine eminent authorities  
on cooking.  
Cottolene is sold by all grocers.  
Refuse all substitutes.

Made only by  
**N. K. FAIRBANK & CO.,**  
Chicago, St. Louis, Montreal, New  
York, Boston, Philadelphia,  
San Francisco, etc.



# BUSINESS NOTES.

## ALONG THE HUDSON RIVER.

The charming scenery, the rare freshness of the country air, and the boundless attractions of the Hudson river towns will doubtless attract the usual multitude of summer comfort seekers, during the coming season. The New York Central runs through the heart of this choice section, and its facilities for the summer traffic will be unsurpassed.

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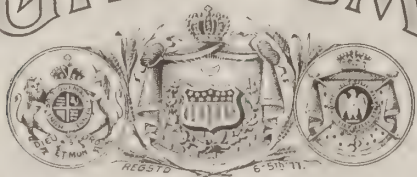
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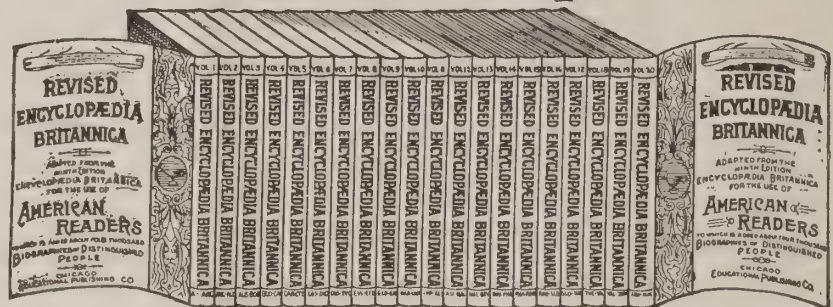
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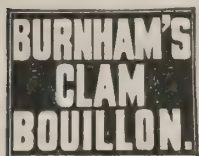
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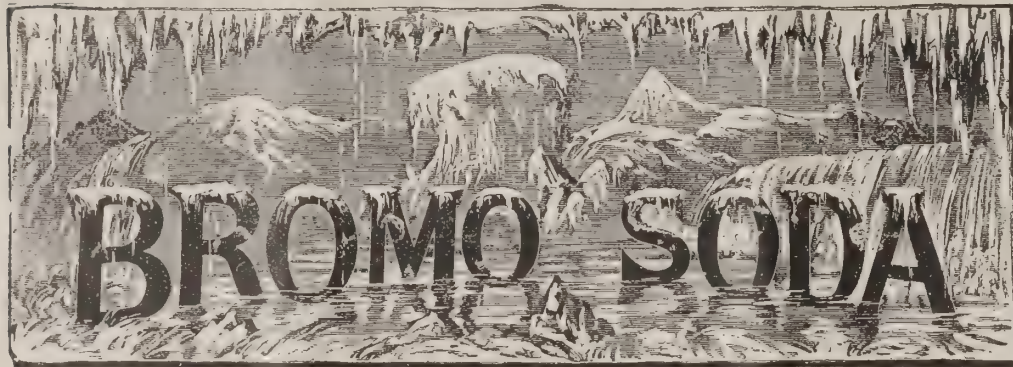
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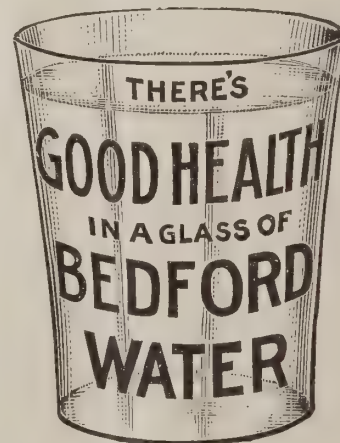
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PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

JUNE 15, 1893.

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### OLEOMARGARINE.

A paper upon this subject, from the pen of G. C. Caldwell, B.S., Ph.D., Professor of Agricultural and Analytical Chemistry in Cornell University, appears in a late number of the *Medical News*. It is by no means new. We have described the process of its manufacture years ago and pointed out the utter ridiculousness of the many stories of its uncleanness and injurious effects.

This substance has become an important article of food, and its use is rapidly extending, so that it behooves physicians to acquaint themselves with its mode of manufacture, its dangers and its uses.

According to Professor Caldwell, caul fat is first cooled, and washed, and then rendered at a temperature of 120 deg. to 150 deg. F. The clear fat is then run into wooden tanks, and the greater part of the stearine, the hard fat contained in it, allowed to crystallize out. The liquid fat separated from the stearine is called "oleo oil." A similar product, prepared from lard, is allowed to retain its stearine, and is known by the trade name of "neutral." The "oleo oil" and "neutral" are then mixed in certain proportions, and constitute "oleomargarine." This substance is free from flavor and color, and to become "butterine" is churned with milk or cream, by which a certain proportion of the flavoring elements of butter are mixed with it, and impart to it the taste and odor of natural butter.

Physicians are not concerned with the effect which the manufacture of this article may have upon the butter trade, but are deeply interested in the wholesomeness and the nutritive value of this product.

It may be stated at once, that it has not yet been shown to be a medium for the transmission of pathogenic germs, and there can be but little doubt but that it is much cleaner than the bulk of the butter put on the market.

Some laboratory experiments as to its digestibility have been made by Dr. R. D. Clark, chemist to the New York State Dairy Commissioner. Dr. Clark performed some emulsionizing experiments with different fats and pancreatic juice, and found that, next to cod-liver oil, butter gave the finest emulsion in twelve hours, while oleomargarine still had many large globules, left unchanged. Dr. Clark also proved that, while butter melts to a clear, limpid liquid in thirty-five minutes, at 100 deg. F., oleomargarine was but slightly changed.

**KNOCKING OUT MOSQUITOES.**—Mosquitoes may be knocked out or prevented from breeding by the use of petroleum. In experimenting it was found that four ounces in a pond sixty feet in area cleared it for ten days, though probably creosote or any other oil would have done as well. The Agricultural Department has experimented with kerosene upon a small area, and it is believed that a small quantity of oil placed in the water of bogs and ponds where mosquitoes breed, will have very much to do toward the lessening of their number.

### WHAT ADVANTAGE HATH A JEW? IN EVERY WAY MUCH.

WHY ARE JEWS AS A RACE PARTIALLY EXEMPT FROM CHOLERA AND OTHER EPIDEMICS?

When St. Paul asked the question, What advantage hath the Jew? he, of course, referred to spiritual advantages. That astute theologian and scientist might however have truthfully given the same answer to the question when asked in relation to the Jews' immunity from infectious diseases.

In a recent article in the *Popular Review*, Dr. E. Alexander, of El Paso, Texas, attempts to answer why Jews are exempt from epidemics, but does so only partially. His essay is a very interesting and instructive one, and we in part reproduce it, to furnish us a text on which to base a more perfect answer:

Much ink has been used within the past few months to give the history, nature, prevention and treatment of cholera. Not only the medical and scientific periodicals, but the religious press, as well as the daily newspapers gave monographs, good, bad and indifferent, on the subject.

*Frank Leslie's Weekly* of September 29, 1892, wrote on "The Cholera Abroad," "Some important facts are stated in the report of the recent investigation set on foot throughout Russia as to the mortality of cholera among the Jews. The results show that contrary to the general belief, the plague has been comparatively harmless to the Jewish population. So far as appears from the official report there can only be traced forty Jewish victims out of a total number of nearly a quarter of a million."

Richardson in his book on "Diseases of Modern Life" says: "The Jews escape the great epidemics more readily than the other races with whom they live. Thus the mortality from cholera amongst them is so small that the very fact of its occurrence has been disputed."

The plague of 1346 did not affect them; according to Francastor they escaped the typhus of 1505; Rau remarks their immunity to the typhus of 1824. Ramazina noticed their exemption from the fatal intermittus of Rome, in 1691; and Degener says that they escaped the epidemic of dysentery of 1736.

In France Dr. Neusville found, that, of one hundred children in the first five years of life, among the Jewish population, 12.9 die; while from the same number of the same class of Christians, 24.1 die. One-half of all the Christians die at thirty-six years, and one-half of all the Jews at fifty-three years and one month.

Dr. John S. Billings has gathered statistics relating to 10,618 Jewish families, consisting of 60,630 persons, (*North American Review*, January, 1891). He says: "When we come to examine the reports of deaths for five years furnished by these Jewish families, we find that they give an average annual death-rate of only 7.1 per 1,000, which would be about one-half of the annual death-rate among other persons of the same average social class and condition, living in this country." He



says further of the death-rate among children: "The low death-rate among the Jews is especially marked among the children," which exactly agrees with European statistics.

In Prussia, in 1887, the death-rate of the Jews under fifteen years of age was 5.63 per 1,000, while among the remainder of the people it was 10.46.

The records of the Jewish hospitals of New York gives out of 28,750 persons admitted, only 44.17 per 1,000 of its admissions as being due to consumption; while those of the Roosevelt Hospital, out of 25,583 admissions gives a per cent 1,000 of 67.93.

We have asked ourselves what is the factor in the difference that exists between the Jew and the Gentile? We have been looking for the truth and nothing but the truth. We have examined closely the oldest and most perfect Sanitary Code of the World—the sanitary enactments of the Jewish lawgiver.

The Pentateuch contains sanitary regulations, and perpetual hygienic laws which the nineteenth century has adopted and enforced statutory laws in Europe as well as in the United States. But the greatest factor in the guidance of the Jew in his relation to the outside world is the numerous and minute hygienic laws of the Talmud.

A writer in the *Edinburgh Review* says: "In every relation of life, in every action, in every conceivable circumstance—for food, dress, habit, language, devotion, relaxation—it prescribes almost every word to be uttered and almost every thought to be conceived."

Of the 613 injunctions into which the Rabbis divide the law, more than half relate to matters of health; while of the 524 paragraphs of the Mishna and the corresponding chapters of the Talmud, 213 are devoted to purely sanitary regulations. It treats of the uncleanness of tents and houses, of plagues and leprosy, of garments and dwellings, of bathing and bathing houses, of the construction of the bath-house, the quantity of water, and gives directions to keep it clean; of fluxes that cause pollution, of the washing of the hands, and a treatise relating to the slaughtering of animals for food. The directions given for the examination of the slaughtered animals—heart, lungs, kidneys, etc.—reminds a student of medicine of a page in a modern pathological anatomy. And one asks himself from where did those Rabbis derive their exact medical knowledge?

There is no mystery, however, in all these circumstances. We have only to go back to history and we find that the Jews originally came from Egypt, and the extreme antiquity of medical science in Egypt may be inferred from the fact that the medical papyrus at Berlin—fourteenth century B. C.—contains the copy of a treatise on inflammation, which was found written in ancient writing rolled up in a coffer under the feet of a mummy.

In Egypt, about the eleventh century B. C., there was a college of physicians which belonged to the Sacerdotal class. They were not confined to one sex. The scriptures confirm, Exodus i, 15, that women practiced medicine. Medical science attained so high a degree of perfection in Egypt that there were specialists in the different branches of the art, and the physician was only allowed to practice in his own branch. There were oculists and dentists, those who treated mental disorders, and those who investigated obscure diseases. In the Hermaio books a whole chapter is devoted to diseases of the eye, and mummies have been found in Thebes with their teeth filled with gold.

A treatise on inflammation fourteen centuries before the birth of Christ? We have no doubt

that it was as thorough, scientific and clear as given in any of our standard works of to-day. Let any medical student thoroughly study the doctrine of inflammation and he will build his further education of the study of medicine on a solid foundation of practical facts which will be a guiding star to his practice of medicine.

While, during the dark and middle ages, the chief remedies amongst the Christians consisted of relics of martyrs and saints, of amulets and talismans, the Jews had the benefit of eminent physicians such as: Isaac Ben Emran, who wrote an original "Treatise on Poisons and Their Symptoms;" Isaac Ben Soleiman, who wrote "On Fevers," "On Medicine," "On Foods and Remedies," "On the Pulse," "On Philosophy," and "On Melancholy."

Physicians were viewed by the church with dislike, and regarded as atheists by the people. The people and church believed that cures must be wrought by relics of martyrs and bones of saints, by prayers and intercessions, and that each region of the body was under some spiritual charge. A man with sore eyes must invoke St. Clara, but if it were an inflammation elsewhere he must turn to St. Anthony. An ague would demand the assistance of St. Pernel. With men of education and position it was different, bishops, princes, kings and even popes had each his Hebrew doctor. In the eleventh century nearly all the physicians in Europe were Jews.

Rabbi Solomon Ben Isaac, better known under the name of Rashi, was equally at home in writing commentaries on the Talmud, or in giving instructions for great surgical operations.

In the Court of Seville was the physician Ebo Zohar. His writings were in Hebrew, Arabic, Syriac; both in prose and in verse. He composed a treatise on the cure of diseases, and two on fevers in which he gave a correct view of the morbid nature of marsh miasm.

He is followed by Ben Ezra, a Jew of Toledo, who was at once a physician, philosopher, mathematician, astronomer, critic and poet. Among his medical writings was a work on theoretical and practical medicine entitled "Book of Proofs."

In Rome, Jewish physicians were very numerous; the popes themselves employing them. Boniface the VIII had for his medical adviser, Rabbi Isaac.

The Council of Beziers, A. D. 1246, and the Council of Albi prohibited all Christians from resorting to the services of an Israelitish physician. The Shrine was allowed as the only doctor for disease, the prayer of a priest the only prescription. The skill of the Jewish physician was refused; the faith cure ruled supreme. The faculty of Paris A. D. 1301 published a decree prohibiting either man or woman of the Jewish religion from practicing medicine upon any person of the Catholic religion.

In the tremendously horrible times known as "the dark ages," the houses of the inhabitants were of mud, without windows, floors and chimneys. Men, women, and children; the dog, the pig and the hen, lived altogether in one room. The bedding consisted of straw and the clothing of leather and rags. Uncleanliness was a mere preliminary to physical penance, and religious leaders regarded to be filthy and swarming with vermin, a virtue.

In the *Popular Science Monthly*, September, 1891, in his "New Chapters in Warfare of Science," Andrew Dukson White, says: "In the seventeenth century, aid in these great scourges (epidemics) was mainly sought in special church services; the foremost English churchmen during that century being greatly given to study of the

early Fathers of the Church, the theological theory of disease, so dear to the fathers, still held sway, and this was the case when the various visitations reached the climax in the great plague of London in 1665, which swept off more than a hundred thousand people from that city. The attempts at meeting it by sanitary measures were few and poor; the medical system of the time was still largely tinctured by superstition resulting from medieval modes of thought, hence the plague was generally attributed to the divine wrath caused by a profaning of the Sabbath.

Another author remarked, "that in the dismal dark ages, the bath had almost perished, and that such a luxury was not thought of during all their lifetime in one individual amongst a thousand of the people."

The bath was a religious and civil law of the Hebrew. The object of the law without doubt was to secure a proper degree of cleanliness among them. From early childhood the Jew religiously washes his hands after rising in the morning, before each meal, and after every call of nature, and it goes without saying that such becomes his habit.

Some sorts of food were interdicted to the Hebrews. All food and liquids which stood in the tent or chamber of a dying or dead man. He was prohibited from making use of the blood of animals, and of the flesh of an animal that died of itself, or was torn to pieces. The Hebrew abstained from the kid boiled in the milk of its mother. Whether this was meant as a lesson on humanity to animals, or as a tacit commendation of oil in preference to butter and milk is not clear. Every one knows that the Jew is prohibited from eating the meat of the hog. Trichinosis in man is acquired by the ingestion of the flesh of the animal. The only effectual treatment is the preventive.

It is difficult to fix upon a precise date to mark the transition from the dark and middle ages when there were no schools—no sewers, no hospitals—to the glorious day of emancipation of humanity; when the world was redeemed from its ignorance, superstition, and slavery of the mind. The world has been transformed and become more Godlike. With the invention of the printing press commenced the era of the revival of learning. During the dark ages slavery was king,—with the Reformation of humanity, Liberty became the guiding star.

Before, the State recognized the individual who believed what he was commanded to,—now the citizen of every nationality, color, or religion stands equal before the law, and has liberty of conscience. Labor was looked upon with ignominy. The baron and nobleman lived upon the fat of the land from the work of the serfs; now, educated and refined people live by industry and commerce.

We will be excused for switching from our original design to give reasons why the Jewish race was, and is, partially exempt from the severity of the mortal epidemics. If we have failed to give cause and reason, it is not because there are none, but only and solely because we have not the learning to demonstrate it; we consequently conclude with the remarks of a recent writer on this subject:

The Mosaic law regarding the treatment of infectious disease, is minutely detailed in the thirteenth and fourteenth chapters of Leviticus. The following comprehend generally its enactments:

1. The compulsory and immediate notification to a responsible health officer, of every case of suspected or actual infectious disease, or of other insanitary conditions fraught with danger to health.



2. The immediate inspection by public health officer, of the affected individual or of the alleged insanitary articles and conditions.

3. In doubtful cases, the total isolation of patient from family and friends and the community, for a period sufficient to determine whether the disease shall assume an infective or noninfective form.

4. In actual cases, the continued and permanent isolation of the patient so long as the disease continued, and consequent danger to the community existed.

5. On the favorable issue of doubtful cases, or on recovery from actual cases of the infectious disease, the restoration of the patient to the community only with the permission of the public health officer, after due inspection, and upon compliance with certain prescribed purifications.

6. The disinfection, and, if deemed requisite, the destruction, by fire, "of all infected clothing and other effects."

7. The disinfection, and, if necessary, the demolition and destruction of infected dwellings, or of dwellings, the insanitary condition of which is dangerous to health.

These are generally the enactments of the Mosaic law regarding the prevention, the arrest and the extermination of infectious disease; and it cannot be questioned that they contain the germ and suggestion of all that modern science has discovered, or modern sanitary legislation has attempted.

To this we would add what seems to lie on the face of what has been already said. The Jewish law with equal rigor forbids the intermarriage of Jews with other races. To this more than any other cause we believe to be due the robust constitution of the Jew and his longevity. Anyone who has ever studied the physiological and pathological condition of the pure blooded negro and the mongrel mulatto, quadroon or mestize must have observed the vitality and powers of resistance to disease of the full blooded negro as against the puny, scrofulous and tuberculous condition of the hybrid offspring of miscegenation.

It is for this reason we believe that we find the Jews of to-day the pure, healthy, strong and prolific race, able to have endured years of oppression, poverty, squalor and all manner of disease-breeding conditions and yet remain the race of strong vitality and intellectual superiority.

It is due to this same cause that the lowest and most degenerate classes of the Southern Russian and Polish Jews have been able to resist disease in spite of their open violation of the spirit if not of the letter of the Mosaic law, so far as it relates to cleanliness.

Undoubtedly the Jew owes much to the sanitary laws of the Pentateuch, but he owes more to the laws of exclusiveness making God's chosen people a separate people.

We believe that the immunity of the Jew is due as much if not more to the Mosaic laws against intermarriage with other races and to their dietary laws than to the sanitary laws.

## NOTES AND QUERIES.

For want of space many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

B. A.: Q.—What are lentils?

A.—Lentils are the seeds of a small annual of the vetch tribe, they are of the shape of a double convex lens, about 1-6 inch in diameter and are

contained two in a broadly oblong, slightly inflated pod about half an inch long. These seeds are more or less compressed, and in color vary from yellow to gray or dark brown. They are mostly imported from Germany, France and Egypt and are generally sold like split peas, without the seed coat. The red pottage of lentils for which Esau sold his birthright was apparently made from the red Egyptian lentil. Lentils are generally cooked the same as beans. The high amount of nitrogenous matter in the lentil has brought this pulse food into favor; but the taste of the lentil does not appeal to all palates, and hence in England many excellent preparations are made, in which the flavor of the ground lentil is improved and made attractive by incorporating with it other ingredients without detracting from its food value. The taste of these preparations is good, though somewhat saline. They are well suited for the preparation of soups, porridges and other forms of food.

M. B. F.: Q.—Please tell me if the sample sent with this is genuine old cognac, for that is what I bought it for.

A.—Chemical analysis cannot fully establish the actual origin of a spirit, but doubtless this is a genuine cognac. We have submitted it to analysis, with the view of determining how far the results coincide with genuine brandy. As will be seen from the following result, they coincide in every detail. Thus the extract amounted to 1.17 per cent; the mineral matter to 0.07 per cent; the alcohol, by weight to 40.45 per cent, by volume to 47.83 per cent, equal to 83.83 per cent proof spirit. The extractives on incineration evolved a smell which was very characteristic of genuine cognac.

R. N. M.: Q.—Please examine this sample of —'s non-irritating nursery powder?

A.—The composition of this powder according to our examination is simple. It is perfectly free from irritants, is entirely soluble in hot water and contains a well-known and mild antiseptic. The preparation is made attractive by the delicate and fragrant odor of rose extract.

ALICIA: The virtues of baby foods are so various and the defects of many of the so-called best baby foods are so glaring, that a categorical answer to your question is impossible. The age and condition of your baby is an important factor. Consult your physician.

K. V: Skin blemishes can be helped and frequently removed. Give us a better description.

L. C. O.: Q.—What do you think of the two samples of essence of beef and concentrated beef tea sent?

A.—Portable and concentrated forms of food are useful and valuable in their way, but they cannot be regarded as being always fitted to replace the freshly prepared products. Whilst a desirable degree of concentration of the nutritious and stimulating elements is effected, flavor is often sacrificed, and the process may not improbably affect the digestibility of the constituents. We have examined from time to time a great number of concentrated foods, notably beef extract and essences, which, similar to the above, are more or less satisfactory as regards flavor and degree of concentration; but, whilst many of them contain in large proportion the stimulating principles of the meat from which they are obtained, certain of them are found to be nearly if not quite destitute of the really sustaining and nutritious elements, fibrin and albumen. This

does not apply, according to our examination, to the concentrated beef tea, although we cannot agree that fibrin and albumen, and especially the former, were present in large proportion. This preparation would certainly be improved and be all the more valuable as a food if it contained more of this substance. In regard to the merely stimulating constituents of beef, however, it is highly satisfactory. Thus it contains 63.87 per cent beef extractives, no less than 10.96 parts of which are nitrogen; whilst the mineral matter, rich in soluble phosphate, containing also common salt, amounted to 6.02 per cent. It yields a pleasantly tasting and agreeably saline liquor when dissolved in warm water. The essence is a clear, amber-colored jelly which, on analysis, was found to have the following composition: Moisture, 90.23 per cent; extractives, 8.79 per cent, containing 1.65 parts nitrogen; mineral matter, 0.98 per cent, consisting almost wholly of soluble phosphate. It contains, therefore, the soluble constituents, creatin, etc., of beef. The taste of its solution is somewhat insipid unless salt is added. Both preparations, it is satisfactory to add, are free from injurious preservatives.

## HOUSEHOLD.

### CIDER VINEGAR.

Good cider vinegar can be made only from good cider. Cider made from ripe apples is stronger than that made earlier, when the apples are yet green. Put the barrel on its side, and fill it with good cider to the bung, that the pomace may be thrown out as the cider ferments. Fill up the barrel twice a day when fermentation is in progress. At the close of fermentation the cider should be racked off carefully and put into another clean barrel, or the same one after it has been well washed out.

If there are enough barrels, it is better to fill them only half full after fermentation is finished, as this exposes a greater surface to the air. The more air the better the vinegar will make; hence, a darkened airy outhouse is better than a close cellar for the storage of the barrels. Cider vinegar is not weakened by exposure to the air or injured by freezing; and if the barrels are only half full there will be no overflow from freezing.

It is not necessary to add anything to the cider; nor is it desirable to add anything, except some old vinegar, after the cider has fermented. The cider will be converted into vinegar in about twelve months, but will steadily increase in strength.

The tightness required of a cider vinegar barrel has become proverbial. Leakage is what haunts the nights of the vinegar maker. The staves of the vinegar barrel must be free of sapwood, and twice the usual thickness. Wooden hoops are better than iron ones, as the cider will cut through the iron hoops in short order when once it gets to them.

Worms, the larvæ of a fly which usually deposits her eggs in the chime, make much bother, and must be carefully guarded against. Naturally enough they prefer sapwood; and on this account as well as the cider soaking through sapwood, it should be avoided. It is said that occasionally painting the barrel with coal oil will kill the larvæ. But it is best to prevent the deposit of the eggs, which may be done by keeping the barrel in a dark place from March to October.

Something new in the clothing line may be found at a South End store in the window of which is displayed the sign, "Canves Jackets."



## TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

**FRENCH PUFF-PASTE.**—One pound flour; three-quarters pound butter; one egg, use the yolk only; ice-water. Chop half the butter into the flour; stir the beaten egg into half a cup ice-water, and work the flour into a stiff dough; roll out thin, baste with one-third the remaining butter, fold closely, roll out again, and so on until the butter is used up. Roll very thin, and set the last folded roll in a very cold place ten or fifteen minutes before making out the crust. Wash with beaten egg while hot. This paste is very nice for oyster-pates as well as for fruit pies.

**TRANSPARENT CRUST.**—(Very Rich.) One pound flour; one pound butter; one egg, the yolk only. Wash the butter, dry, and then melt it in a vessel set in another of boiling water, stirring gently all the while to prevent oiling. Take off the salty scum from the top, and when almost cold beat up the butter little by little with the egg, which should be previously whipped light. When these are thoroughly incorporated work in the flour, roll out twice sprinkling lightly with flour before you fold it up; let it stand folded five minutes in a cold place, and make out for tartlets or pates. It is not suitable for large pies. Bake before you fill them, and brush over with a beaten egg while hot.

**CORN-STARCH CUSTARD PIE.**—Six eggs; three pints milk; six tablespoonfuls white sugar; two tablespoonfuls corn-starch; two teaspoonfuls essence of bitter almonds. Boil the milk, stir in the corn-starch wet in a little cold milk and boil one minute. When nearly cold, stir in the sugar, the yolks of all the eggs, and the whites of two; flavor, and pour into your paste-shell. Whip the remaining white to a meringue, with two tablespoonfuls white sugar and a teaspoonful of vanilla and when the custard is just "set," draw your pies to the edge of the oven to spread this over them. Do it quickly, lest the custard fall by exposure to the air. You may bake this as a pudding by omitting the pastry. Eat cold. If you have not corn-starch, substitute arrow-root or rice-flour.

**COCOANUT PIE**—One-half pound grated cocoanut; three-fourths pound white sugar (powdered); six ounces butter; five eggs, the whites only; one glass white wine; two tablespoonfuls rose-water; one teaspoonful nutmeg. Cream the butter and sugar, and when well mixed, beat very light with the wine and rose-water. Add the cocoanut with as little and as light beating as possible; finally, whip in the stiffened whites of the eggs with a few skillful strokes, and bake at once in open shells. Eat cold, with powdered sugar sifted over them. These are very pretty and delightful pies.

**ORANGE TARTLETS.**—Two fine Havana oranges, juice of both, and grated peel of one; three-quarters cup of sugar—one-half cup if the oranges are very sweet; one tablespoonful butter; one half lemon, juice only, to wet one teaspoonful corn-starch. Beat all well together, and bake in tartlet shells without cover.

**CREAM RASPBERRY TART.**—Line a dish with paste and fill with raspberries, made very sweet with powdered sugar. Cover with paste, but do not pinch it down at the edges. When done, lift the top crust, which should be thicker than usual and, pour upon the fruit the following mixture: One small cup of milk, half cream, if you can get it, heated to boiling; whites of two eggs, beaten

light, and stirred into the boiling milk; one tablespoonful white sugar; one-half teaspoonful corn-starch wet in cold milk. Boil these ingredients three minutes; let them get perfectly cold before you put them into the tart. Replace the top crust, and set the pie aside to cool. Sprinkle sugar over the top before serving. You can make strawberry cream tart in the same manner.

## LOBSTERS.

FIFTY MILLION LOBSTERS SENT TO MARKET ANNUALLY FROM NEW ENGLAND'S COAST.

"The lobster fishermen of the Maine coast have a hard time of it during the winter, no matter how mild the season may be, and they are having an exceptionally hard time this winter," said a former lobster trapper, now a wholesale fish dealer in this city. "The winters are rarely very favorable along the north-eastern coast of New England, where the best lobster ground in the world is found, its shoals, bays, inlets and rocks supplying the lobster to perfection, with all it requires for feeding and breeding places, and protection against its enemies, and during the winter it remains in very deep water, often as deep as thirty fathoms and more, where it is safe from the effects of the fierce gales that sweep the sea there and from the dangers of the ice floes that grind against the bottom of the shallower water. In warm and fair weather, though, the lobster is found in water as shallow as three fathoms.

"To engage in the business of lobster trapping with anything like profit, a fisherman must possess or control from seventy-five to one hundred traps set over a fishing ground of ten miles, at least, in circuit. These traps must be set at night and visited every morning. In the winter this means going out no small distance from the shore, the lobsters being in the deepest water, and the fishermen in their circuits have to fight the gales and the ice and the fierce snows that rage over the lobster beds. Frequently after severe gales, the coast will be strewn for miles with lobster pots or traps, that, even at the great depth they were anchored in the sea, have been broken from their fastenings and swept ashore.

"Each fisherman has his own private mark on his traps, and such a thing as one fisherman disturbing or sequestering a trap belonging to another is unknown among them. In fact, no matter where a derelict trap may be found, the finder will spare no trouble in having it returned to its owner as soon as possible. This is an unwritten law among those rude and hardy fishermen, and the man who would violate it would be regarded as having committed the unpardonable sin, and be shunned and denounced by all his fellows.

"A lobster pot is a simple enough contrivance. It resembles more than anything else an immense bird cage made of wood slats. Both ends are covered with loose, strong netting made from tarred rope, with a hole in the middle of each net. This trap is sunk by weighting it with stones, and lies on the bottom in a horizontal position. A buoy fastened to it by ropes indicates to its owner the location of each trap. A cod's head or other bait that will tempt the ever ravenous and hungry lobster, is placed inside the pot, where it is secured on stout iron hooks to keep it stationary. This soon attracts the lobster, and he reconnoitres about the pot to see how he may get at the aggravating morsel. In his frantic skirmishing he discovers the netting, and he turns and backs himself through it.

"He no sooner gets in, though, than he becomes somewhat aware that he is in a fix. He immedi-

ately loses all inclination to sample the bait that tempted him to get into the scrape. He moves about in the trap looking for a way to get out just as frantically as he searched for a way to get in only a moment before. So agitated does he become that he forgets that his best pedestrian work is accomplished by a backward movement, and he doesn't try to back out of the hole in the net as he backed in, but exerts himself to get out head first, a feat that it is impossible for him to accomplish, because of the enormous claws that catch in the netting and balk all his efforts.

"But let this crazed lobster be released from the pot, he will no sooner have reached the outside than all his desire to possess this tempting bait takes possession of him again, and he once more makes frantic search for a way to get into the trap after it, finds the way, backs in as before, becomes immediately panic-stricken again and renews his crazy efforts to escape. No matter how many times a lobster might be let out of a trap he would just as often set at once to work to become a prisoner again. That lobsters are seized with this strange panic the moment they find themselves in a trap is evident from the fact that although as many as twenty may be found in one pot when it is taken up, the bait will seldom, if ever, show any sign of having been touched by any of them.

"One of these pots would be no obstacle to the lobster's freedom if this covetous creature only knew its power, for half a dozen of them could smash a pot to pieces in a twinkling or one sweep of a lobster's great claw would serve to tear the tarred rope netting from the trap as if it had been gauze.

"The people of this country evidently have a great liking for lobsters, for over 50,000,000 of the shellfish are eaten by them every year, without counting the other millions that go on the market in cans. As to the big establishments along the Maine coast and other shores that can lobsters, the way they have been making inroads upon the lobster beds for years, it is a wonder that there is a lobster left in those grounds.

"Besides the thousands and thousands of undersized lobsters the miscellaneous army of lobster trappers furnish these cannery establishments, they have fishermen of their own who are constantly trapping for them, several that I know having as many as 150 men engaged in the work. They don't care anything about size, age or condition of the lobsters they take. The fishermen are simply instructed to get lobsters, and they get them. Big, little, good, bad and indifferent, they all go in together. The incessant fishing for lobsters off the New England coast has had its effect, not so much in lessening the number of these shellfish that are sent to market, but in lessening the size of the lobsters marketed.

"Only the largest lobsters are shipped from the fisheries, the smaller ones being sold to the canners. It is not so many years ago that the average lobster that came to New York from New England was twenty inches long, not counting the claws. The biggest average now is not more than half that length. There used to be twelve-pound lobsters a plenty, and I have heard of them weighing eighteen. A lobster as large as that would have to be 30 years old at least. This shellfish grows very slowly, and at 3 years old isn't much bigger than a crawfish. A lobster under 5 years old isn't fit for market, but lots of such youngsters have to pass muster in our fish stalls nowadays."

Postmaster-General Bissell has the grip, and thousands of fourth-class postmasters have lost it.



## MEDICAL.

### COMMON EYE TROUBLE.

Blurring of the sight is a symptom which generally causes considerable uneasiness, being regarded as a sign of failing power of the eyes. If a person's sight is at other times good, blurring for a few seconds need not occasion any uneasiness. It may generally be assumed as a mere temporary weakness, which will be recovered as soon as the eyes have well rested. This symptom is a frequent complaint of young girls who spend many hours at the piano. The eyes are particularly liable to strain while reading music, because exact vision is required to follow the notes.

What has been said in reference to blurring of the eyes may also be said of pain in the eyeball. It generally comes on after overtaking the eyes. If it disappears, or is much less, after they have had a period of rest—as, for instance, after a night's sleep—and the sight is good, then it may be assumed that the pain is the consequence of strain of the eyes through overwork, or using the eyes under improper conditions, such as going without glasses when they are needed, or wearing glasses which are not properly adjusted, reading in a poor light, while lying in bed, etc.

The eyes of almost all children are tried too far. Those between eight and fourteen years of age ought not to use them in reading, sewing, and the like, for more than three hours a day. A well-known specialist says that young people between the ages of fourteen and twenty-one ought to be able to learn all their lessons, write all their essays, practice all their music, in a period of five hours a day for five days out of the seven. Correct habits of study—that is to say, earnest attention to the work in hand, without dawdling—will certainly enable most youths of ordinary capabilities to do all their hard study in less than five hours a day. As to grown men and women, it is well-nigh impossible, in the light of present knowledge, to correctly name the time that may be daily spent in the use of the eyes on near and small objects. Experience as to one's own capabilities, if regarded, will soon settle this question.—*Exchange.*

Among the new diseases are listed, typewriters' backache, telephone earache, gum-chewers' lock-jaw, and cigarette-smokers' insanity. A crinoline craze is threatened also.

Fair Visitor—How can you tell an optimist from a pessimist?

The Artist—The one says "That's good" and the other "That's not bad."

### CAMPBOR POISONING.

Camphor is a household remedy put to many purposes. The medicinal uses are principally in headache, cold in the head, and in nausea and fainting. In such cases camphor in solution is held to the nose, and the vapor inhaled. As long as it is used in this way it can do no harm; but, unfortunately, many people take it internally in some form or other, and often run some risk in doing so.

Camphor as a medicine is generally used by laymen either in the form of the spirit of camphor or as camphor water. But few know where-in these differ; hence, one of the greatest dangers attending the drug. Spirits of camphor is made of camphor, ten parts, alcohol, seventy

parts, and water, twenty parts; the dose of this is from five to ten drops; whereas camphor water as now usually made, is water filtered through cotton moistened with a strong tincture of camphor; the dose of this is from a teaspoonful to a tablespoonful. It is easy to see how unfortunate it would be were one to mistake the spirit for the water of camphor, and take it in the usual dose of the latter.

In overdoses, camphor excites symptoms referable to the brain. There is giddiness and sleepiness, and, in extreme cases, fainting, delirium, convulsions and profound stupor occurs. Considering how wide its use, it is reasonable to suppose that deaths sometimes occur in consequence of poisonous doses of camphor, which are attributed to other causes. Just how much is required to kill is not known; but one author states that 30 grains have caused death in an infant, and 164 grains in a woman. Of course, the greatest danger attends its use in children.

All things considered, camphor is an agent which should be limited to external use and to inhalations, unless ordered by physicians.

### REMOVAL OF WENS.

Cystic tumors, or what are popularly known as "wens," occasionally appear on the scalp. Many victims, notwithstanding the annoyance they suffer from them, fear to have them removed, owing to the prejudice that cancers are liable to form in their places. A wen is about as harmless an abnormal growth as can be conceived of. If small, and it can be easily concealed by the hair, it is scarcely worth while to meddle with it; but if large enough to be unsightly, it will be well to have it removed by the surgeon. The operation is very simple, and ordinarily causes but little pain, as the scalp is not very sensitive. The wen is first laid open; then the sac is caught by a pair of forceps and lifted out. The wound heals in a few days. A man of ordinary nerve can have five or six small wens removed at one sitting without taking an anæsthetic. They are filled with a cheesy-like, fatty material. If injured by a blow, or in any other way, a wen is quite liable to inflame, ulcerate, and open, and give off a very offensive discharge, which persists for a long time. Finally it "runs itself out," and the tumor disappears.

Various appliances are tried by those who have wens—iodine is a popular one—but none of them do any good. The only way to remove them is with the knife. In some instances, charlatans have pronounced small cystic tumors to be cancerous growths, and applied their marvellous cures in the shape of caustics. By those the innocent tumors were inflamed, ulcerated, and converted into very bad sores. When healed, as, of course, they did in time, it was claimed that the so-called cancers were cured.

### HYPNOTISM AND MESMERISM.

#### THE GERMAN PROFESSOR ON HYPNOTISM.

"Hybnodism," the German professor said thoughtfully, "vos a mendal disorder dot vos raging principally in der noosebapers. It vos a hypertrophy auf der imachination, undt der writers on mendal pheenomenone vos first attacked. You might call it a sort auf writer's cramp auf der prain. Der ingredients peen made auf a fool undt a rascal. Mix thoroughly undt set away in a cool blace. Bud one well authenticated case has peen reported, undt dot vos told py a notorious liar auf France. As a defence for der lawyers to sed up in murder drials it would peen a pudding, as Schiller saidt; but its brincipal use

so far alreaty has peen confined to sheap novels undt skyentific makazines. Fife tousand years ago a Greek philosopher hybnodized a rooster-shicken mit a straight chalk-mark on der floor, undt now, in 1892, der skyentific beeples discofer dot you can hybnodize beeples auf dey aindt got as much prains as dot rooster. Nature got hard feelings towards a vacuum, undt auf you aindt got no intelligences auf your own you can absorp dot from somepody else. It vos a choyful surbrise to some beeples's headts to get a mind inside auf dem py hybnodism auf dey didn't had some alreaty py natural. It's bedder, young mens, dot you cultivate some prains auf your own, aber you debend on hybnodism aber hypodermic inchections auf mendality. In der meandimes I can hybnodize dis class more expeditiously undt skimultaneously mit a glub. It's bedder you enchoy dis pecooliar phleenomens while she is goin', because she vill soon go down der stream auf time pehind der plue grass, der roller skate, Koch's lymph, Keeley's gold cure, undt pig-headed canes. You can now go der door outside undt blay ball mit your feet."—*Judge.*

## HYGIENIC.

### COLD BATHING IN THE MORNING.

Cold bathing in the early morning is beneficial only to those persons who have sufficient vital energy and nervous force to insure good reaction with no subsequent languor or lassitude. Many persons who are greatly refreshed by their morning bath, feel tired or languid two or three hours after it. When this occurs, it is conclusive evidence against the practice. Persons who have an abundance of blood and flesh, who are lymphatic or sluggish in temperament, and whose nervous force is not depleted, can take the cold morning bath to advantage. Others who are inclined to be thin in flesh, whose hands and feet become cold and clammy on slight provocation, who digest food slowly, and assimilate it with difficulty, who are nervous, and who carry large mental burdens, should avoid early morning bathing. For all such, the bath at noonday or before retiring at night is far more desirable, and it should be followed by rest of body and brain till equal conditions of circulation are re-established. Some individuals who are weak in nervous power have such excitable peripheral nerves that they get at once a perfect reaction from cool bathing, but lose in after effects more than the value of the bath. This class of persons should not bathe too often, and should always use tepid water, choosing the time preferably before retiring.—*Jenness Miller.*

A chemist advises that canned fruit be opened an hour or two before it is used. It is far richer after the oxygen of the air has been restored to it.

## ADULTERATION.

### BOGUS JAM.

Adulteration of foods seems to be as extensively practiced in England as in this country. One great industry there, which is said to be wholly unsuspected by the public, is the making of spurious jams from refuse fruits, raspberries, oranges, etc., which have first passed through the hands of the wholesale chemist, by whom their juices are extracted. The pulp is then bought by manufacturers of cheap jams for



flavoring, and placed upon the market as "fine new season jams," or marmalade.

It is stated that mustard and coffee are, as a rule, preferred by the English consumer in an adulterated state. Many people object to the color of genuine mustard; many also consider that the addition of chickory imparts an agreeable flavor to their coffee.

#### TIN POISONING.

W. A. Campbell of Colorado Springs, Col., reports six cases of tin poisoning, and summarizing his observations, states: 1. Stannous salts are poisonous to the human system, being similar in their action to the other mineral poisons—lead, zinc, arsenic, antimony, etc. 2. The salts of tin are anthelmintic as well as the powder product. 3. Toxic doses of salts produce symptoms similar to those from ptomaines. 4. Canned food products may contain stannous salts in poisonous quantities. 5. The danger from this source is increased from exposure to the air; hence all fruits should be emptied from tin cans as soon as opened.

### BOOK REVIEWS.

#### A NEW STANDARD DICTIONARY.

The Funk & Wagnalls Company, 18 Astor place, N. Y., have issued a prospectus of "A STANDARD DICTIONARY OF THE ENGLISH LANGUAGE," a work that has been for several years in preparation, and is now being pushed rapidly towards completion. The prospectus informs us that the definers are in letter "T," and over one-third of the entire work is in type. Of the 200 specialists, all except one have reached the end of the alphabet. The enormous task of perfecting a work of this kind may be judged from an examination of this prospectus. Nearly \$300,000 have already been paid to the editors and specialists engaged in the preparation of copy; and before the work is completed over a half million of dollars will have been expended.

There are many distinguishing features of this dictionary, some of which are the systematic compounding of words; the exact locating of quotations; the comprehensive provision for definition by specialists; the arrangement of the various definitions of a word in the "order of usage," instead of in the "historical order" so generally followed heretofore in dictionary-making; the aggressive (yet essentially conservative) step in the simplification of spelling; the adoption of the scientific alphabet in the pronunciation of words; the system followed in the grouping of certain terms; the discrimination between common and proper nouns in the vocabulary; and the placing of the entire appendix under one alphabet.

We also note the extraordinary richness of vocabulary. After the exclusion of thousands of obsolete words that are found in other dictionaries, though they do not appear in what may be called the living books of to-day, and the exclusion of all scientific and technical terms that can be safely spared from a work of this kind, a comparison with other dictionaries will show how complete is the vocabulary of the Standard. The following is an actual count of the words and phrases recorded under the letter "A":

Stormonth.....	4,692
Worcester.....	6,983
Webster (International).....	8,358
The Century.....	15,621
The Standard.....	19,736

The announcement has been received with great favor by some of the most eminent scholars in this country. When completed it will no doubt be a valuable addition to lexicography. The price will be very moderate, so as to bring the work within the reach of all. We advise our readers to send for a copy of the prospectus and judge for themselves.

#### PAINTING AND DECORATING.

*Painting and Decorating* for May, issued on the fifteenth of the month, is a notable number, and full of suggestions for the practical painter and decorator. An illustrated article describes the course of instruction in the decorative classes at the Drexel Institute. R. S. Brigham gives some handy hints for the sign writer, and F. Maire treats at length on practical methods for testing white lead. The first of a series of news articles from the World's Fair is given, in which this great exhibition is taken up from the standpoint of the decorator. In addition there is an article on English wall papers at the World's Fair, which is illustrated with many notable designs by our cousins across the "herring pond." An address delivered by Mr. John Smethurst, before the Philadelphia Association of Master Painters and Decorators, is reported in full, and ably treats of what the association has done. All these, with the usual departments, form a magazine well worth the dollar charged for a year's subscription. House Painting and Decorating Publishing Company, Master Builder's Exchange, Philadelphia.

#### NEW OCCASIONS.

*New Occasions* is the name of a new magazine of social and industrial progress, edited by B. F. Underwood and to be published monthly at \$1 a year by Charles H. Kerr & Co., 175 Monroe street, Chicago. The contents of the June number are as follows:

"True Democracy," Dr. Edmund Montgomery; "Recent Advances in Penological Reform," Dr. Lewis G. Jones; "The Qualification of Principle," George Jacob Holyoake; "Clerical Auxiliaries," M. C. O'Byrne; "Fences," Capt. R. C. Adams; "Labor Unions and Wages," W. H. Van Ornum; "The Coming Struggle," M. C. C. Church; "Money and Other Mediums of Exchange," A. H. Cotton; "Poverty and Love" (a poem), Nellie Booth Simmons; "The Reformer" (a poem), William Francis Barnard. Editorials, book reviews, notes.

#### MCCLURE'S MAGAZINE FOR JUNE.

The first issue of *McClure's Magazine* is a surprise in many ways. The cover is designed by the famous artist Will H. Low, and, unlike the covers of most new magazines, it easily ranks in beauty and effectiveness with the best magazines. Another surprise in the magazine is its price; it is just half that of its older rivals. Then, it is very fully illustrated. This first issue contains ninety-five pictures and fourteen different articles. In its typography the magazine is extremely fortunate. It has a clearly printed, readable page.

Perhaps the greatest novelty, however, in the magazine, aside from its extraordinary price, is a real dialogue between William Dean Howells and Prof. H. H. Boyesen.

Prof. Henry Drummond contributes a paper on "Where Man Got His Ears," that is a perfect study in evolution.

The veteran journalist, De Blowitz, has written

an article which will provoke thought and discussion in Europe.

The articles describing "A Day in Gladstone's Life" and "Count de Lesseps at the Present Moment," are full of great personal interest.

The new department, invented by this magazine, "The Edge of the Future," contains some very interesting matter gained by interviews with Thomas A. Edison and Alexander Graham Bell. There are three short stories. In the way of adventure there is a description of training wild animals. There is also a very interesting article by James Parton, on "How to Write Biography."

The conductors of the magazine announce contributions for the next two or three issues by Stevenson, Kipling, Thomas Hardy, Octave Thanet, Conan Doyle, W. D. Howells, Elizabeth Stuart Phelps Ward, Henry M. Stanley, Archibald Forbes, and a series of interviews with Jules Verne, Archdeacon Farrar, Alphonse Daudet, Emile Zola, Camille Flammarion; in short, the contributors to the magazine embrace nearly all of the greatest names in literature.

This magazine, with the completeness in illustration, the timeliness and interest of the articles and its extraordinary price, which is only \$1.50 a year, and 15 cents a copy, make the advent of *McClure's Magazine* noteworthy. Published by S. S. McClure, Limited, 743, 745 Broadway, New York City.

THE ARENA FOR JUNE; Arena Publishing Company, Boston, Mass. Single number, 50 cents. Per annum, \$5.00.

The June *Arena* is a mammoth number. It is probably the largest magazine ever published as a monthly issue of a review, containing one hundred and sixty-four pages, of which one hundred and forty-four are in the body of the magazine, and twenty pages of carefully written book reviews by such well known critics as Rev. W. H. Thomas, D. D., of Chicago, Helen Campbell, Hattie C. Flower, Hamlin Garland and the editor of the *Arena*. Among the leading papers in this notable anniversary issue are: *Insanity and Genius*, by Arthur McDonald; *the Liberal Churches and Scepticism*, by Rev. Marion D. Shutter, D. D.; *Arsenic versus Cholera*, by R. B. Leach, D. D., is interesting and timely; *Women Wage Earners in the West*, by Helen Campbell; *Does the Country Demand the Free Coinage of Silver*, by A. C. Fisk; *Save the American Home*, a striking economic paper, by I. E. Dean; *Islam, Past and Present*, by Prof. F. W. Sanders, one of the most scholarly religious essays of recent times, and should be read by all interested in obtaining a correct idea of what Mohammedanism is; *Union for Practical Progress*, by the Editor, a strong plea for the union of progressive and reformative impulses for educational and practical work. Mr. Flower also contributes a striking paper, entitled *Parisian Fashionable Folly versus American Common Sense*, which deals with the dress reform movement now being so vigorously pushed by the National Council of Women of America. This paper is handsomely illustrated, containing twelve or fourteen large photogravures of Boston ladies in the new reform costumes. Mrs. Frances E. Russell, chairman of the dress committee of the National Council, also contributes a paper on *Freedom in Dress*. One of the most striking features of this issue is a symposium advocating the charms of the Maize as the national flower. To this symposium a number of eminent writers contribute, and the charms of Indian corn are set forth in such a way as to appeal to the reason and sentiment of all readers. Altogether this is a most notable issue of this great progressive review, and no readers of magazines should pass it by.



## THE CALIFORNIA MAGAZINE.

The fourth volume of the *California Magazine* begins with the June number, which comes to hand with its usual variety of good things. Few writers excel Charles F. Lummis in descriptive ability, and his article on the "Grand Canon of the Colorado" will appeal to every lover of the grand and beautiful in nature. The article is superbly illustrated. Richard H. McDonald, Jr., in an ably written paper on "The Danger to the Republic," directs attention to many of the evils that beset our National and State Governments, of which that of inattention and indifference to public affairs is shown to be by no means the least. "The Land of the Shah," by Theodore Copeland, contains new and interesting matter concerning life among the Persians in palace and hovel, and gives fine opportunity for many new and interesting illustrations. An article likely to attract universal attention at the present time is one by Frederick J. Masters, D.D., on "Our Treatise with China." Genevieve L. Browne has written a charming description of the lakes and mountains of Utah. Arthur B. Simonds, a new name among magazine writers, contributes a paper on Spanish authors which gives evidence of thorough knowledge and love of contemporaneous literature. J. G. Bliss tells of a bicycle trip to the Lick Observatory, a look through the big telescope and a thrilling coach ride down Mount Hamilton at night. "Titles Won by the Pen," by Arthur Inkersley, is of much interest. There is a real salt-water flavor about Walter Mayhew's article on "Yachting Among the Channel Islands." Lillian E. Purdy writes entertainingly of the wonderful "New Calaveras Cave," and there are interesting illustrated articles on "Life Savers of the Pacific Coast," "The South Polar Regions," etc.

Worthington Company, Joseph J. Little, receiver, 747 Broadway, New York, announce for immediate publication as No. 22 in their Rose Library: A SOUTHERN HERITAGE. A novel by Wm. Horace Brown. 1 vol., 12 mo, cloth, \$1.00; paper, 50 cents.

An attractive story of American Southern society life, which, as regards dramatic spirit, originality of motif, force and life of characters, is most remarkable. The conceptions are strong but simple, the style natural, the conversations exceptionally vivacious, and the people represented are creatures of flesh and blood, even if some are fond of pleasure, high living, dancing, morphine, etc. The descriptions of the great ball, especially, in which the Grand Duke Alexis and Mrs. Kirkwood were dancing partners, are wonderfully realistic, in fact they make one's blood tingle. On many readers it will leave the desire to participate in social pleasures which are here so vividly represented. Of course, there runs also in this bright novel an undercurrent of dark deeds, finally brought to a happy end by an ideal and appropriate marriage.

They also announce for immediate publication, as No. 7 in their Fair Library: THE IRONMASTER, By Georges Ohnet, author of "Antoinette." With frontispiece. 1 vol., 12 mo, paper.

"The Ironmaster" is a story of admirably sustained interest, skillfully told in graceful yet forcible language. The strongly marked characters develop themselves naturally, both in their language and their actions. The book, moreover, unlike the general run of French novels, conveys a sound moral. It shows anew how needful it is that husbands and wives alike should study each other's character before marriage, and it enforces in convincing language the oft-repeated lesson that a woman should never trifle with the affections of the man to whom she is mated for life.

## A UNIVERSITY IN THE HOME.

A college education has ceased to be a luxury. It is now an absolute necessity to every young man who would enter upon life with an unclouded prospect. Talk as one may about the superfluity of higher education, it cannot be gainsaid that its absence makes a successful man's progress less pleasant, even if it does not impede it very seriously. There is no wise young man who would refuse the opportunity of university study if he could get it. But of course it costs money. You cannot enjoy the privileges of such an institution unless you can afford to pay liberally for them.

Why not set up a university in your own home?

It can be done and at an expense so trifling as to be of no moment.

American enterprise has at last brought it within easy reach of all. You can have it in your own home for ten cents a day.

The poor young man can have no better university.

The presence of the Revised Encyclopedia Britannica makes a university of the humblest cottage.

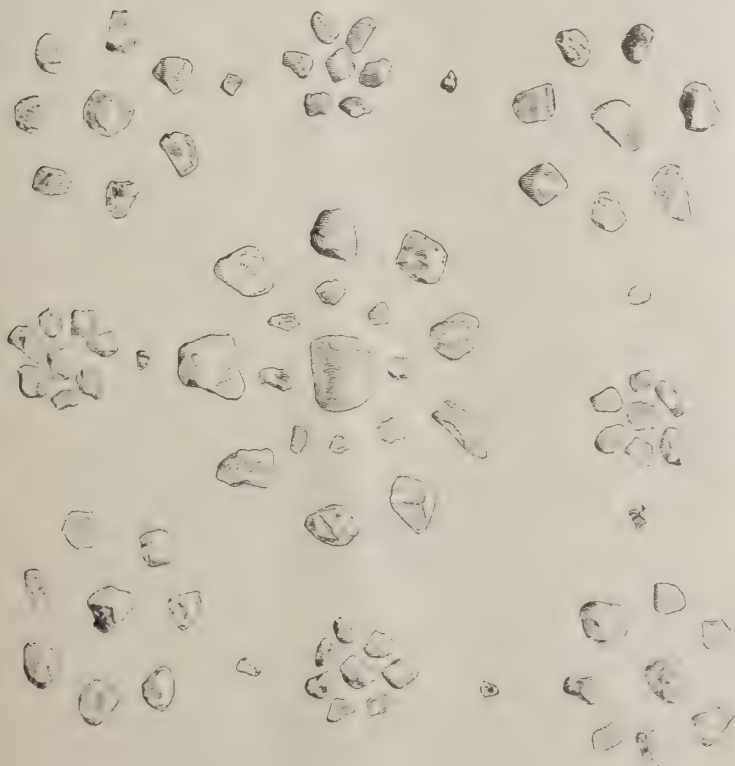
We are anxious to have this great library placed in the home of every one of our readers. You cannot now offer any excuse for not having it, for you can pay for it on almost your own terms. What home can afford to be without it when it can be secured by the saving of only ten cents a day for the short period of ninety days. Recollect we send the entire twenty volumes at once on receipt of but one dollar, the other \$9.00 to be paid at the rate of ten cents a day, payable monthly.

The winter girl who is described as dressed to kill would doubtless be classified as a form of slay-belle.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

**THOMAS F. GOODE, Proprietor,**  
**BUFFALO LITHIA SPRINGS, VA.**



## THE SHADOW OF THE PAST.

Balmy vernal airs spread universally throughout animated nature a sense of revivification and exhilaration, the upspringing of new life and intensification of vital energy—except in man. He who was "made to mourn," complains of lassitude, a sense of weariness, depression of spirits and feverish discontent. But in this, as in almost every other instance, if man suffers, it is his own fault. He is expiating his dietary sins and other infractions of nature's laws during the winter season preceding. He has eaten what was set before him with no restraint for conscience sake, and has even taken trouble to see that his food supplies were ample, rich and heating. Doubtless too, if not otherwise compelled by necessity, he has lived a sedentary life, and taken little or no exercise during the months of abominable weather. His digestive, assimilative and eliminative organs have been—as an inevitable consequence—thrown into disorder, and his blood, clogged with impure foreign matter, instead of nourishing, actually poisons his entire system. Hence, these warm spring breezes stir up in him not latent vitality, but the seeds of disease. Naturally he feels badly, perhaps without very clearly knowing why, or even being able to define what is wrong with him, if his case is not yet developed to be a very bad one. No man can feel well whose liver is even a little bit "out of kilter" and that his is all his sensations demonstrate. He need not wait until he is laid up by a bilious fever to feel convinced that such is the fact. And he should understand that it is not safe to ignore

## A Tonic

For Brain-Workers, the Weak and Debilitated.

### Horsford's Acid Phosphate

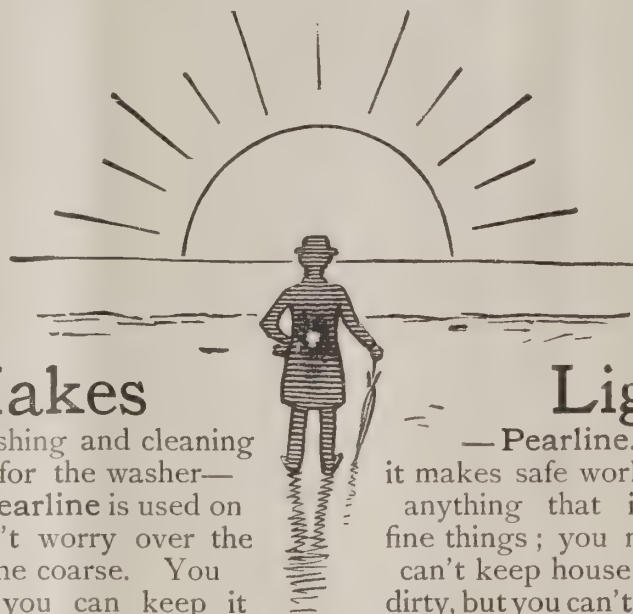
is without exception the Best Remedy for relieving Mental and Nervous Exhaustion; and where the system has become debilitated by disease, it acts as a general tonic and vitalizer, affording sustenance to both brain and body.

Dr. J. C. Wilson, Philadelphia, Pa., says: "I have used it as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.



## Makes

work of washing and cleaning light work for the washer—washed. Pearline is used on You needn't worry over the hard over the coarse. You Pearline; you can keep it

## Light

—Pearline. It makes it makes safe work of what is anything that is washable. fine things; you needn't work can't keep house well without dirty, but you can't keep it clean.

## Beware

Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, if your grocers send you an imitation, be honest—send it back. 288 JAMES PYLE, New York

even a slight indisposition of this character and trust to nature to unaided cure herself. The trouble is one bound to increase if permitted to go on. The only safety is in active remedial measures for restoration of healthful action to the impaired organs and the purification and enrichment of the life current. A cathartic medicine alone, however energetic, affords only temporary and measurable relief, while violent purgatives are actually worse than useless, for they impart a brief and delusive sense of betterment, which only betrays to a false security, if indeed they do not directly injure by causing a reactive torpidity of the organs they spasmodically excite. The ideal panacea for these ills is a medicine which will gently but effectively stimulate at once the liver, kidneys and bowels and impel them to efficient discharge of their functions of elimination and excretion. And it should, at the same time, exercise a specific alterative potency in the blood. The only preparation known to pharmaceutical science which is capable of meeting these requirements is Ayer's Compound Extract of Sarsaparilla. No other combines in the same beneficently just proportions and with such perfect preservation of their volatile and most potent principles, those invaluable vegetables simple sarsaparilla, yellow dock, stillingia and mandrake, strengthened by the powerful alterative iodide of potassium. There is no humbug of mystery about the component ingredients of Ayer's Sarsaparilla. Indeed, the manufacturers willingly furnish to any physician the exact formula under which it is compounded. Hence, although classed technically among the "proprietary" medicines, it is in point of fact, generally recognized by the medical profession all over the world as a standard official preparation, and as such regularly prescribed in practice. One does not, however, require a doctor's orders to make him know that if he has "spring fever" he can thoroughly and promptly cure himself by the use—in strict conformity to the directions accompanying it—of Ayer's Sarsaparilla.

## BUSINESS NOTES.

\$100 REWARD \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages and that is catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of Testimonials.

Address F. J. CHENEY & Co., Toledo, O.  
Sold by druggists, 75c.

There are plenty of places where a preacher's testimony will do the Lord more good than in a patent medicine advertisement.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Harrothy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Seve of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.



## THE TELAUTOGRAPH.

THE LATEST METHOD OF ELECTRICAL COMMUNICATION.

We take from the current *Cosmopolitan* an account by its inventor of a great advance in the adaptation of electricity to the uses of commerce, an invention which is expected to revolutionize present means of communication. The first rough experimental machine, embodying some of the features of the telautograph of to-day, was completed and operated by the inventor, Professor Elisha Gray, in 1887. This was on the variable resistance plan. Some writing was accomplished with it, but there were inherent difficulties that made it seemingly impossible to ever make a commercial machine after that method. This was abandoned for the step by step method, which is the fundamental idea of the present machine. The first successful machine on this plan was finished in March, 1888. This was a crude affair, but it did some good writing and was the forerunner of better things. In 1890 a third machine was completed and was a great step in advance. It did excellent writing, but was not sufficiently simple and reliable for public use. In 1892, the present instruments were completed. With the exception of certain refinements of parts and minor perfections of mechanism, it remains substantially as at first finished.

Here the receiver, a very compact instrument, is distinct from the transmitter. Thus the writer has his message on one blank, and that of his correspondent on another, to the manifest gain of simplicity and facility in filing. Dust and extraneous matter are excluded by a cover over all the working parts, which protection, in the case of the pen arms, is made of glass. A common lead pencil is used to write the message; near its point are fastened, at right angles to each other, two silk cords, which, connecting with the instrument, follow the motion of the pencil and control the receiving pencil at the other end. The paper is on a roll attached to the machine, and is of ordinary make, about five inches wide. When it is to be moved forward, one presses a lever at the left, which also electrically shifts the receiving paper.

At the receiving station two aluminum arms hold the capillary glass tube which serves as a pen. It is fed with a constant supply of ink flowing from a reservoir through a rubber tube. This pen is guided by the electrical impulse from the sender and moves simultaneously and in like direction and extent with every motion of the distant pencil, so that the ink-tracing which results must be a fac-simile of whatever the sender writes or draws.

The practical uses of the telautograph have not all been enumerated, and in the nature of things they cannot be at this juncture; in fact, only a very few have as yet been indicated. Every man whose business or profession differs from that of any other will find some special way that it can serve him, for it is the most flexible of all means of communicating at a distance. More so than the telegraph or telephone, because these can only communicate words, while the telautograph can convey ideas by diagram, drawing or any form of hieroglyphic. More than this, it will transmit in a measure the individuality of the man himself. Very soon it will become a part of the machinery of daily life, and like its great predecessors, the telegraph and telephone, it will become a necessity.

Some of its advantages may be summed up as follows: Inasmuch as it will transmit a man's own autograph, any transaction may be carried on by parties widely separated with the same

facility as though they were in each other's presence. All business transactions that are done in writing and through the mail may be done by wire. The merchants and business men of a city or town, having a telautograph exchange, may do with it all business with each other that is now done by mail. Exchanges in different cities and towns may be connected by trunk-lines, so that merchants in out-lying towns may order goods over their own signature, and factories and machine-shops may receive orders for parts by working drawings or diagrams.

A telautogram ordering a purchase or sale will not have to be confirmed by mail as a telegram does, for it identifies itself as perfectly as a letter could. Checks may be signed; drafts may be accepted; stock, bonds and other securities may be sold and delivered, or money paid on a telautograph order. Contracts may be made and executed. When all cities are equipped with exchanges, and all exchanges are connected by trunk-lines, a man may write a letter on his own desk, and, when he has finished, it will be on the desk of his correspondent in another city. His correspondent, if in his office, can answer immediately, without the delay incident to the present telegraphic system, or, if not, will find it on his return.

A newspaper will be able to authenticate an item of news, by having the autograph of the person that sent it; and not only can the written description of a railroad wreck be sent but also a picture of the wreck itself, at the same time. It may be used as a part of a detective system, for a fair outline likeness can be sent over the wire. All kinds of codes, maps, diagrams, trade-marks, short-hand, hieroglyphs, and whole columns of figures may be transmitted.

For private line service, it stands without a rival. A broker in one city having a branch office in another may send messages to his partner without fear of publicity, for no expert service is required and no operator need stand between him and his correspondent. A manufacturer having an office and factory at some distance apart may transmit orders over his own signature. It is private and makes no intelligible noise. Anybody can use it, and it is impossible for a message to be stolen from the wires, as is the case with the telegraph or the telephone.

For railroad purposes it will be invaluable, especially in the matter of train orders, as no mistake can occur, unless made by the train despatcher himself; and if an error is made the responsibility can be readily fixed upon the right person.

It is adaptable to every language and every code; even the Chinese alphabet in all its native crookedness will be faithfully and accurately reproduced at its destination.

All this and ten thousand things that have not been thought of, but that use will in time suggest, are not only possible but on the verge of realization; for we live in the nineteenth century, the rapid age, the age of electricity.

"With steeds of steam, and wheels of fire,  
We go a speed that's fright'ning,  
We send our letters on a wire,  
And dip our pens in lightning!"

## MATRIMONIAL ADVERTISEMENTS AS THEY SHOULD BE.

A middle-aged man who has never been able to earn a decent living would like to get hold of some property by marrying a well-to-do widow. Address "Layoff," this office.

An indiscreet and foolhardy maiden of twenty would like to make the acquaintance of a feather-

brained dude, matrimonially inclined. Object, future misery. Address "Clementina," matrimonial bureau, box 8.

A man of economical habits and saving disposition seeks the acquaintance of a capable woman who would be willing to become his wife, house-keeper, washerwoman, nurse and general servant. No triflers need apply. "J. Klosperz," Jersey City.

A talented and shrewd young lady, who has written a play and would like to bring it out, desires to meet a wealthy young man who would be willing to assist her with money and to enact the part of an idiot generally. Answer through matrimonial column, Star.

I am a Jewish gentleman of methodical business habits and anxious to acquire command of a larger capital. I would marry any sort of woman of any age or appearance, in consideration of the sum of eleven thousand four hundred and forty-three dollars and sixty-nine cents. No discount. Apply to "Israel Jacobs,"—Grand Street, New York.

A bachelor is desirous of marrying a pretty and amiable lady who would not inquire too closely into his past life, and who would be willing to devote herself to making him happy for any period of time he might choose to indicate, to be terminated by mutual separation. Only persons of the highest respectability need respond to this. "J. W. B.," p. o. box—Judge.

There is something wrong if you feel spiteful whenever you see another woman wearing a better bonnet than you can afford.

DON'T

Find fault with the cook if the pastry does not exactly suit you. Nor with your wife either—perhaps she is not to

BLAME

It may be the lard she is using for shortening. Lard is indigestible you know. But if you would always have

YOUR

Cakes, pies, rolls, and bread palatable and perfectly digestible, order the new shortening, "COTTOLENE," for your

WIFE

SOLD BY ALL GROCERS.  
REFUSE ALL SUBSTITUTES.

Made only by  
**N. K. FAIRBANK & CO.,**  
Chicago, St. Louis, Montreal, New  
York, Boston, Philadelphia,  
San Francisco, etc.

Send three cents in stamps to N. K. Fairbank & Co., Chicago, for handsome Cottole Cook Book, containing six hundred recipes, prepared by nine eminent authorities on cooking.



## MISUSED WORDS.

The American nation, as a people, are fond of short cuts, made necessary by the constant hurry in which we live. Perhaps the effect of this is more to be noticed in our speech than anywhere else.

We have fallen into an incorrect use of words and phrases.

The following eight words, which are frequently misused by interchanging one for the other, furnish examples of this ever-present liability.

Between for among.—The word "between" is properly used only when its object consists of two items. "Among" should be used if the object includes more than two items. "Between" is a corruption of "by twain," or "by two." A father divides his property between his two sons. Another divides his estate among his five children.

Constant means occurring all the time, without intermission. "Frequent" means occurring often. We frequently hear constant used to denote events which occur quite often, but at considerable intervals of time.

Custom for habit.—A person forms a habit. A community or a people have a custom. It is a habit with most persons to confound these two words. Indeed, this habit has almost become the custom in some communities.

Depot for station.—The place where the train stops to take in passengers is a station, whether there be a building there or not. The depot (depository) is a strong building for the temporary storage of goods in the care of the railroad company for delivery or for transportation. It may be a station or it may not.

So general is the misuse of words that the faculty of Wellesley College has promulgated a list of phrases and expressions to be avoided by the girl collegians, and it might be studied with profit by many girls outside of college.

"I guess so" for I suppose or I think so. "Fix things" for arrange things or prepare things. The use of "ride" or "drive" interchangeably. "Real good" or "real nice" for very good or really nice. "I have studied some" for studied somewhat, or "I have not studied any" for not studied at all. "Try an experiment" for make an experiment. "Had rather" for would rather, and "had better" for would better. "Right away" for immediately, or now. "Well posted" for well informed. "Try and do" for try to do. "It looks good enough" for it looks well enough, or "does it look good enough" for does it look well enough. "Somebody else's" for somebody's else.—*Our Sunday Afternoon.*

VIRTUE REWARDED.—Sometimes, though rarely, virtue receives its reward in this world, and occasionally one is requited for going to a prayer meeting. Such a recompense was meted out to the attendants at a service of prayer and song held one evening last week. One of the sisters became much wrought up as time wore on and gave vent to her feelings for a while in deep sighs and fervent amens, but, finding even these failed to express her emotions, she rose to her feet and began:

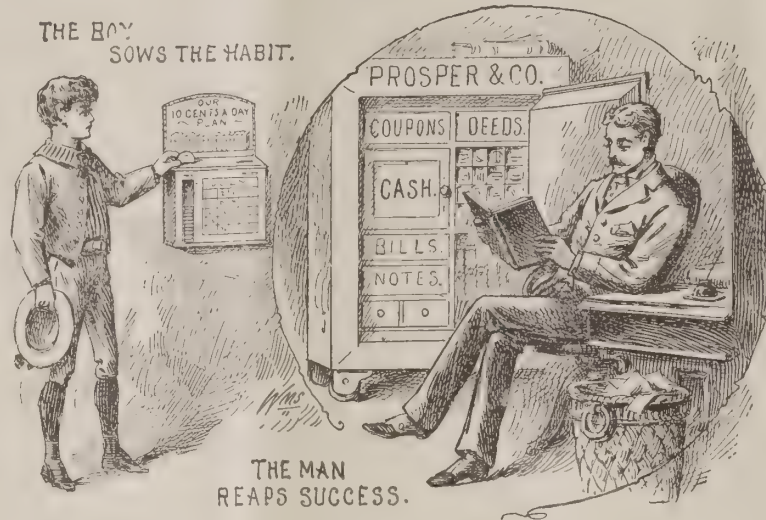
"Brethren, I feel—I feel—I feel like a pot of emptiness!"

But at this juncture her husband, who had been visibly disconcerted at his wife's "speaking in meeting," could stand it no longer. He gave her skirt an angry twitch.

"Sit down, wife, sit down," he growled. "You don't express yourself worth a d—n!"

"As the Twig is Bent so is the Tree Inclined."

## THE BOY IS FATHER TO THE MAN.



Economy is taught, an education is given by our plan for placing the **Revised Encyclopedia Britannica** in the home of every one of our readers.

Teach your boy the value of a dime. He will then know what to do with his dollars later in life.

If this lesson in economy was the only end in view it would still be worth your attention, but how infinitely more valuable is it when you know that this end is but a means to a greater end, the bringing into your home of the greatest literary work the world has ever known; the placing of a liberal education within the reach of every member of your family; the making of your home, the peer of any public library in the world, so far as the facts of history, the discoveries of science and the practical knowledge of the world are concerned.

Isn't it worth trying? Investigate the matter at once. We don't want you to act till you think. If you think we know how you will act.

### READ OUR PROPOSITION:

On receipt of only **One Dollar** we will forward to you, charges prepaid, the entire set of 20 volumes, the remaining \$9.00 to be paid at the rate of **10 cents a day** (to be remitted monthly). A beautiful dime savings bank will be sent with the books, in which the dime may be deposited each day. This edition is printed from new, large type on a fine quality of paper, and is strongly bound in heavy manilla paper covers, which with proper care will last for years. Bear in mind that the entire 20 volumes are delivered to your address, with all charges paid to any part of the United States.

This special offer is made only to the readers of the **AMERICAN ANALYST**, and will remain open for a limited time only.

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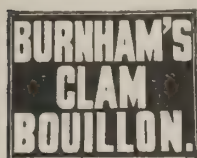
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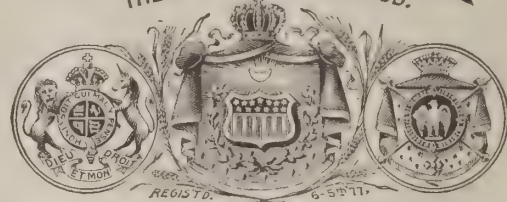
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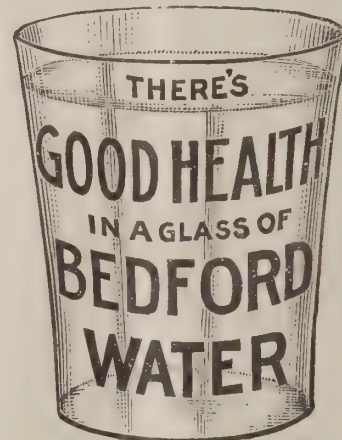
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Subscription, - - - - - \$1 per year.  
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Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

JULY 1, 1893.

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## THE WHOLESALE MANUFACTURE OF COCOA AND CHOCOLATE.

[From *The Mineral Water Trade Review*.]

The first coffee-house in England was opened at Oxford, in the year 1650, and conducted by a Jew, named Jacobs. The Rainbow Coffee-house, close to the old Temple Bar, London, was opened soon after, and declared to be a nuisance in 1657. In 1675 all coffee-houses were suppressed by proclamation, and the order revoked on the following year, upon the promise of coffee-traders to use these houses for legitimate purposes and not as houses of ill-repute. If history is to be credited the goings-on at these so-called coffee-houses were something shocking, including every form of drunkenness, gaming, vice and debauchery. Rather a remarkable contrast to the modest coffee-houses of to-day; nevertheless it was under

the auspices of these ancient dens of infamy that chocolate first saw the light in this country. Very soon after the first opening of coffee-houses the drinking of chocolate was introduced as a new attraction, although, according to the records of those times, the old attractions were not upon the wane.

In a work on "Popular Beverages" by Professor P. L. Simmonds, the author observes that "The introduction (of chocolate) into Europe dates about 1520, when Columbus brought home some of the seeds or beans. Although it was described by one writer as 'a drink fitter for a pig than a man,' the beverage soon became a passion among the Spaniards. It was probably more than a century after the introduction of cocoa into Europe before the English became acquainted with it, and Sir Hans Sloane is credited with having introduced the mode of preparation. The earliest mention of its use here appears in a newspaper called *Needham's Mercurius Politicus*, dated the 16th of June, 1659."

It was well known as a beverage in Mexico and South America a long time before it was known in Europe. It was a favorite drink of the famous Montezuma (II.), the last Aztec Emperor of Mexico (1466-1520); and a banquet given by this monarch, at which the renowned Cortez and his suite was present, is thus described by Bernal Diaz del Castillo, a Spanish officer in the traveler's train:—"They brought in among the dishes above fifty great jars of cacao, with its froth, and drank it." This beverage was termed chocolate, and when prepared for Montezuma the nut-brown liquid derived from the seeds was worked up into a froth with the richest cream, sweetened with wild honey and flavored with vanilla beans; the Emperor partaking of it "from a golden bowl with a golden spoon."

In the reign of Charles II. chocolate became a very favorite drink, finding its way into royal stomachs, and meeting with the approval of one Dr. Stubbes, who courted high favor by writing a book entitled "The Indian Nectar; or, a Discourse Concerning Chocolate;" and we have Professor Simmonds' word for it, that the author of this discourse, after reciting many curious notions respecting its "secret virtue," recommended his readers to buy it of one Mortimer, "an honest though poor man," who lived in East Smithfield, and sold the best kind at 6s. 8d per lb., and commoner sorts at about half that price.

A certain traveler, named Gage, we are also informed, wrote about the year 1630, "Our English and Hollanders make little use of it (cacao), when they take a prize at sea, as not knowing the secret virtue and quality of it for the good of the stomach." Whatever may have been the public opinion of chocolate then it has been undergoing marvelous changes since, for the consumption has been increasing year by year during the present century in a marvelous manner, as will be seen from the following statistics taken from *Haydn's Dictionary of Dates* (1892). From this source we learn that the amount of cocoa imported into the United Kingdom was, in—

	lbs.
1849.....	1,989,477
1855.....	7,343,458
1861.....	9,080,288
1868.....	10,308,298
1870.....	14,793,950
1876.....	20,443,591
1877.....	17,056,364
1879.....	26,155,788
1883.....	22,698,161
1887.....	27,352,568
1890.....	28,112,210

What do these statistics teach us? Firstly, we learn the rapid strides that cocoa or chocolate has made in popular favor, and at such a steady rate of advance that if the same pace be kept up for the next forty years the quantity will be doubled. Then we learn that a large proportion of manufactured cocoa and chocolate is imported from Holland, Belgium, France, and other continental countries; according to some authorities, this exceeds one-third of our entire consumption. Cooley, in his "Cyclopædia," tells us that "of late years great attention has been paid to the manufacture of chocolate in England; our principal makers now import the finest descriptions of cocoa, and produce varieties of the manufactured article which are scarcely inferior to those of their French rivals."

This is encouraging; and as the number of genuine cocoa and chocolate manufacturers, that is to say, those who work up the beans themselves from the very beginning, as imported, do not number more than could be counted on the fingers of one hand, it is very evident that there is plenty of room for a few more manufacturers, especially if they confine their attentions to the production of good articles only, which unfortunately some of the so-called British manufacturers do not. Quite recently the vendors of certain cocoas sold in packets have been fined because the description did not sufficiently set forth that the cocoa was made up. These prosecutions are perfectly just, and are likely to do much good in the way of preparing the road for a maker of the genuine article.

Of the various modes of making up cocoa that are practiced by many makers—British and foreign—I shall have occasion to speak hereafter, and describe or explain, not for the purpose of offering them as examples to follow or to avoid, for I shall not scruple to point out their faults and demerits wheresoever I can find them.

It will be convenient here to quote from "Popular Beverages" once more: "There are about ten chocolate and cocoa manufacturers in Holland, whose yearly requirements of cocoa-beans may be estimated at 3,000 tons in round figures.\* They generally manufacture cocoa preparations known by the names of soluble cocoa, cocoatine, and cocoa-powder, viz., the roasted and powdered cocoa-beans, deprived of their natural fat, or the cocoa-butter, which is used as a valuable ingredient in chocolate and cocoa sweetmeats and for pharmaceutical purposes. The oldest of the Dutch cocoa works was founded on a small scale more than a century ago, and most of the other



works have existed from forty to sixty years; but all of them remained insignificant until the above-named powdered preparations found their way to foreign countries, especially England and Germany, where certain Dutch brands of powdered cocoa have been very well received and enjoy a large sale."

Professor Simmonds says: "There are people who erroneously suppose that the excellence of Dutch cocoa-powder is to be attributed to a peculiar mode of manufacture different from the methods followed in other countries. Formerly the best specimens of Central and South American cocoa were sent to Spain, where the monopoly of the best chocolate was retained, as well as the reputation of a superior manufacture. Now, England, France, and Holland surpass Spain in the excellence of the manufacture. What I propose to show in these numbers is that these countries do not surpass the Spanish in the excellence of manufacture, but they use less adulterants, substitutes and other fakements, that spoil the flavor of cocoa, even if they do not altogether deprive it of its normal characteristics."

"In the early days of the present century the use of chocolate was limited to the upper classes, the middle and lower ranks of society using it only in case of sickness."

Cooley says: "No warm drink that we take approaches cocoa in its nutritive character, because, while performing to a certain extent the exhilarating work of coffee and tea, it presents to the stomach a very considerable quantity of nitrogenous and carbonaceous matter. This advantage is partly due to the fact that cocoa is taken in the form of an emulsion instead of an infusion or decoction." No wonder, then, that the Spaniard regards it with feelings akin to veneration. They drink it in very much larger quantities than any other country; but in the form of sweetmeats—that is, as chocolate, the proportion is in our favor.

The AMERICAN ANALYST devotes this much space to this article for several reasons: First, because it is historically interesting. Second, because it corroborates what we have so often said, viz., that the so-called Dutch process of making cocoa soluble by using alkalis to convert the cocoa fat into a species of soap is neither appetizing nor healthy, and, thirdly, to call our readers' attention to the fact that we have here in this country the best cocoa and chocolate made anywhere—that of Walter Baker & Co. of Boston, whose output closely corresponds with the description of the best ideal above described.

\* The figures given here have been considerably increased since the date of the statistics from which they were taken.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### POTAGE A LA REINE.

Remove the fat from one quart of water in which a chicken has been boiled, season highly with salt, pepper, celery salt and a little onion. Put on fire to boil, mash the yolks of three hard boiled eggs, mix with them half cup bread or cracker crumbs soaked until soft in a little milk; chop white meat of chicken until very fine, stir into the egg; add one pint hot cream slowly, then

stir all into the broth; boil five minutes, add more salt if necessary, if too thick, more cream.

#### DUCHESSE POTATOES.

Cut cold boiled potatoes into cubes, season highly with salt and pepper, dip into melted butter and lightly in flour; arrange on a baking sheet, bake fifteen minutes in a hot oven and serve very hot.

#### FRUIT PUDDING.

One cup suet chopped, three cups bread crumbs grated, one cup raisins, one cup currants, three quarters of a cup citron shredded, one cup molasses, two eggs; steam three hours.

#### SPANISH BUNS.

One and one-half pints of flour, one pint of sugar, four eggs, one cup butter, one cup milk, half teaspoonful cloves, one tablespoonful cinnamon, one teaspoonful baking powder; frost.

#### SILVER CAKE.

Two cups flour, one and one-half cups sugar, half cup milk, half cup butter, whites four eggs, one teaspoonful cream tartar, half teaspoonful soda; flavor with lemon.

### CREOLE SOUPS.

Wise with the wisdom of the serpent is old Felicie when she serves with the Lenten dinner the delicate soup *maigre*. From its steaming depths rise odors delicious and satisfying, and although it is seasoned but with herbs and innocent of meat, it is nutritious and healthful for the feverish springtime of the year. If you watch closely, which is our only method of learning where Felicie is teacher, you find that thorough cooking of all the ingredients is the corner stone, so to speak, of the structure. The hasty preparation of food is not Felicie's forte; she knows nothing of "quick meal" stoves and "one-minute" decoctions.

While her vegetables are slowly simmering themselves into the soft, tender mass she desires, other duties can be attended to; but that process must not be hastened. As she blends the butter and flour or the eggs and the milk with which to amalgamate all her ingredients into the smooth, velvety result, she tells you in clipped French, "*Un liaison, madame; tres necessaire.*" And an essential very necessary you find it when with unskilled fingers you try to do likewise—a lumpy viscous mass, instead of the creamy liquid you love to look upon and devour.

Suppose you want a simple potato soup; you tell Felicie, "*Ah, oui madame; potage parmentier,*" and this is the way she makes it: Wash and peel six or eight potatoes; put them into a saucepan with two onions cut into tiny pieces and three pints of cold water. Bring them to a boil, and when perfectly tender, which should be in about thirty-five or forty minutes, pass the whole through a sieve. Return to the fire and season with pepper and salt, a pinch of grated nutmeg, and a lump of butter the size of a walnut. Bring again to a boil, and stir in quickly a cup of rich milk; serve immediately. Bear in mind that all these soups are to be poured over croutons, and that this is the way you prepare them: Remove the crust from slices of stale bread; cut into small dice, and then drop into boiling butter; shake very gently but thoroughly till light golden brown. When done, which will be in about a minute, take them up with a skimmer, and lay them in the mouth of the oven on brown paper to dry. The butter must nearly cover the bread, and must be boiling.

Here is another Creole potage. Clean and cut up fine four very red carrots, two large onions,

one turnip and two sticks of celery; put these to fry with butter, size of an egg, and about a teaspoonful of sugar. Brown slightly, and pour in four or five teaspoonsful of boiling water. Simmer a quarter of an hour, and turn into the soup kettle with salt and pepper to taste, adding a bouquet garni made of a sprig of thyme, some parsley, a few cloves and a bay leaf tied together with a thread. Pour in a quart of boiling water, cover and simmer gently at least two hours; the vegetables must be perfectly soft. Mash through a sieve and return to the fire, adding a pint of milk. When boiling, stir in a teaspoonful of flour that has been well blended in a little cold water or milk. Let it boil a minute or two and serve at once with croutons.

There is all imaginable difference in this soup when the carrots are mashed very fine or the other thing. When these homely vegetables that form so large a part of the stock in hand of the genuine French or Creole cook are properly boiled and mashed they impart a delicate tinge and savor peculiarly their own. On the other hand, any unfortunate who has found in his soup plate some bits of underdone vegetable, with a strong, decidedly unpleasant taste, is usually equally strongly decided against the flavor of carrot in anything.

Simmer very gently until quite tender a quart of dried peas, two large onions, a head of celery, a carrot, two turnips, a handful of spinach and a sprig of mint; when perfectly soft pass through a sieve, and return to the fire with two lumps of sugar, a piece of butter size of a walnut, a head of lettuce sliced and salt and pepper to taste. If you can get them, boil asparagus tips apart in a little salted water, drain, and add when dishing the soup.

Another *maigre* soup is a little troublesome, but very delicate and savory. Boil young peas, asparagus tips, and small dice of carrots until thoroughly done, but do not mash; drain and add after you prepare a soup as follows:

Boil two onions and a few stalks of celery in two pints of water; strain them out and pour in a pint of new milk; salt and pepper. When boiling stir in three tablespoonsful of flour which has been perfectly blended with a little cold milk; let it boil nearly ten minutes, stirring constantly. Have ready in the tureen the well-beaten yolks of two eggs. Pour the soup on these very gently, stirring quickly. Season with celery, salt, and add the previously prepared vegetables. Serve very hot with croutons.

Sorrel is among the earliest spring greens, and its strong aromatic taste is very pleasant. French chefs present a soup wherein the flavor of sorrel is very apparent, and call it *potage a la bonne femme*. Has this any reference to its slightly acidulated flavor, should you think? At all events, perfectly sweet things grow very tiresome after a while, and this is why both women and soup should have a little spice—let us not say acid—in their composition.

Put into a saucepan butter, egg size; three leaves of lettuce finely sliced, a pint of sorrel, minced, an onion and three parsley sprigs, also minced; cover the saucepan and let these all stew gently for ten minutes, then sift in two tablespoonsful of flour, mixing well. Pour in gradually, stirring always, three quarts of boiling water. Put a cup of mashed potato into three-quarters of a cup of rich milk, and add to the soup. Season with pepper, salt and a pinch of nutmeg. Mix the beaten yolks of four eggs with a little milk—use a cupful altogether—in the tureen, and pour in some of the boiling soup; put in some dice of toast, and pour the rest of the soup over; cover and stand in a warm place five min-



utes. Serve hot. If preferred this soup can be passed through a sieve before pouring over the eggs.

In all these soups the Latins use the tiny clove of garlic, either rubbing it on the croutons or inside the kettle.

#### CAYENNE.

J. H. Connelly thus writes on the subject of pepper in general, and cayenne, miscalled cayenne pepper, in particular:

Not long since, weary of the infinite adulterations of cayenne pepper sold by most grocers, I bought some at a pharmacist's, under his assurance that it was "absolutely pure, necessarily so, as it was prepared for medicinal use." I believe it was, all of it at least that pretended to be capicum, but when I came to put it in a little bottle for use, an astounding fact was discovered. It contained worms or grubs—fat, white, and lively fellows, full half an inch in length. What an amazing worm it is that can habitually live in and fatten on red pepper! I should really like to know the condition of his liver, if he has any. And yet, come to think about it, I have known men whose indifference to the pungency of pepper was almost as surprising as that of those worms. In Venezuela are grown in abundance, and used lavishly, several kinds of very small peppers, red, yellow and green, some slender and others round, but all of infernal heat, and collectively known as *aji* (pronounced *ahee*), dwarfs in size, but giants in strength. It doesn't make any difference what their shape and color may be, they all seem to the unaccustomed palate fresh blazing coals. I am rather fond of pepper myself, yet half of one of those little peppers, held on a fork and gingerly rubbed on the bottom of my plate, made my soup fiery enough. But a lantern-jawed old Venezuelan, sitting opposite me at the table of the San Amand Hotel, Caracas, deliberately forked up seven of these peppers, put them in his mouth together, and placidly munched them while continuing his conversation with me. I fancied I could almost see lambent flames darting out between his snaggy teeth and thin lips, but if the mouthful was hot he didn't notice it, he said. Red pepper is more healthful than black. The latter, if used to excess, is very liable to irritate the coats of the stomach, but the former only stimulates beneficially.

Some doctors do say mean things about the ill effects upon the liver caused by too free and long continued use of cayenne, but I have no doubt, if the truth were known, that genial spice deserves a very small share of the blame accorded to it on that account. We all do, habitually, many things much more likely to get our livers out of kilter than the mere eating of cayenne, even in its highly concentrated form as *tabasco* sauce. But a very delicious red pepper, too little known in this country, is the Hungarian *paprika*. It is little, if any, stronger than white pepper, has an exquisite flavor peculiarly its own, and threatens no hepatic trouble. Although a very good pepper for table use the chief excellence of the *paprika* is in culinary employment. Heat brings out its flavor, and being so mild it may be used lavishly without giving pain to tender mouths. By the way, a fact not generally known is that milk is a sovereign remedy of almost instant efficacy in neutralizing the painful burning sensation caused by an overdose of cayenne.

Buyer—This doesn't seem to be a very good fit.

Dealer—Vot do you eggspect for two tollars and a helluf? An attack of ebilepsy?—*Brooklyn Eagle*.

#### TO REMOVE TAR, AXLE GREASE, ETC.

White cottons and linens: Soap, oil of turpentine, and water, each applied in turn.

Colored cottons and woolens: First smear with lard, rub with soap and water, and let it stand a short time; then wash with oil of turpentine and water alternately.

Silks: The same, using benzine instead of turpentine, and dropping the water from a certain height on the under side of the stain. Avoid rubbing.

#### TO REMOVE INK SPOTS.

Take a thick blotting paper or board, steep it several times in a solution of oxalic acid or oxalate of potassium. Then dry it. If there is a spot to be taken away, apply the blotter, which has been prepared in this fashion, to the same.

#### TO CLEAN MARBLE.

Mix soda, pumice stone and finely powdered chalk in proportion of two parts of the former to one of the latter; pass through a sieve and mix with water to form a paste of some consistency. Rub well on the marble and rinse with water.

#### TO CLEAN OIL CLOTHS.

Wash with a large soft woolen cloth and lukewarm water; dry thoroughly with a soft cloth, and afterward polish with milk or a solution of bees-wax in spirits turpentine. Never use a brush, hot water or soap, as either will remove the paint.

#### TO CLEAN GILT PICTURE FRAMES.

Fly marks can be cleaned off with soap and water, used sparingly on end of the finger covered by a piece of rag. Then rinse with cold water and dry with chamois leather. Boil a little common size in a perfectly clean paint pan, using as much water as will just cover it. When boiled, strain through muslin in a clean pan, and apply to frames with a camel's hair brush, being careful not to use too much water or "elbow grease." Do not use gold size, as it is used only in regilding, and will only make gold dull and sticky.

### ADULTERATION.

#### DANGEROUS COLORS.

In a classified grouping of colors dangerous to health, those less dangerous, and such as do not belong to either of those designations, the *London Chemical Review* places under the first heading some fifteen substances, viz.: orpiment, realgar, biniodide of mercury, turpeth mineral, arsenite of lead, white lead, litharge, minium, Naples yellow, oxychloride of lead, arsenite of cobalt, verdigris, Scheele's green, Prussian blue, Prussian green. Under the second head—colors less dangerous to health—are enumerated chromate of lead, vermilion, sulphide of tin, mineral lake or chromate of tin, chromate of copper, purple red, Thenard's blue, oxide of zinc, chromate of zinc, chromate of barium, oxychloride of antimony, sulphide of cadmium, smaltz, ultramarine. Among the colors not dangerous are mentioned sulphate of barium, yellow and red ochres, Venetian red, cochineal, manganese brown, raw and burnt umber, and sienna, sepia, indigo, colcothar.

#### ADULTERATION IN MASSACHUSETTS.

In the April report of the Massachusetts Board of Health we find the following interesting item:

At the present season of the year a lively business flourishes in the sale of the saccharine products of the rock maple tree. The following letter from a firm in Brooklyn, N. Y., to a retailer in Massachusetts, illustrates one of the methods of conducting this line of business. The articles in question were distinctly marked "maple syrup."

BROOKLYN, N. Y., April 28.

DEAR SIR:—We don't anticipate that you will have any trouble with the board of health in regard to the "maple sugar jugs." The board of health of this country, as we understand it, is for the protection of food and adulteration, etc. This name, "maple sugar jugs," is simply a title which we give these goods, and we don't claim that they contain maple syrup, but the goods are not adulterated. They contain pure cane sugar, which is just as wholesome as maple sugar, probably more so.

If you think it advisable you might case up what few jugs you have in stock and keep them for a short time, and let the matter blow over, but we don't think that you will have any trouble in the matter in the least.

Cordially yours,

GREEN & BLACKWELL.

On which the *New England Grocer* comments as follows:

Besides being valuable as a curiosity on account of the suave, off-hand way this firm has of disposing of matters, and on account of the method of expression, the grammar and the construction—it is also a specimen of New York humor.

The "cordial" manner in which Messrs. Green & Blackwell append their signature shows them to possess warm natures, and to possess that happy faculty of making one feel quite at ease.

Like some other New York manufacturers they don't anticipate any trouble with the board of health (for themselves) and are disposed to slop the maple sugar (in this case cane sugar) over the retailer in order to reassure him. Perhaps they don't know all about the Massachusetts State Board of Health.

New York manufacturers have a great habit of giving things "titles." After all, that's about all a name amounts to with a New York manufacturer. There's nothing in a name to him.

This firm pays our board of health a big compliment when it alludes to it as "the board of health of the country." We are well aware that it is the most efficient board in the country, and is patterned after by other States. But it kicks over the whole "jug" of sweetness when it says that beside being for the protection of food it is also for the protection of adulteration.

Come off your perch! We guess Dr. Abbott won't own up to this.

We think there's no question but that pure cane sugar is as healthful as maple syrup, but hardly think it is more so—though it may be, in this case, of course—coming as it does from New York.

Messrs. Green & Blackwell don't know our own vigilant, lynx-eyed Mr. McCaffrey, when they talk about letting it "blow over."

Such things don't blow over Mr. McCaffrey.

Come off, dear Brooklynites.

As to these sugar jugs they were little jugs filled with syrup for sale as a confection—to children, etc. They were distinctly marked maple sugar.

Sugar jugs is "simply a title." The boy who



called out "hot mince pies" on the railroad train was called down by a purchaser who said to the boy: "What do you mean by calling these hot mince pies when they are stone cold?" "Ah," replied the little urchin—a la Green & Blackwell—"that's their name." "Simply a title."

### RED GLOVES.

A warning is given respecting gloves of a red tint. It is stated that this is likely to be the fashionable color shortly. Dr. Puy de Blance has found that the dye used brings out an eruption on the hands. The glove makers suffer with it badly, and they use zinc ointment and a 2 per cent boric acid solution as a remedy.

### ADULTERATED OLIVE OIL.

The *Drogisten Zeitung* reports that a form of adulteration recently detected, but practiced for a considerable length of time, consists in the addition of 25 per cent of pure odorless vaseline to the olive oil. The vaseline, it is said, is added to the ground olives, left with them for twenty-four hours, and then pressed. By this treatment the vaseline acquires the odor and the taste of the olive oil and can be mixed with the latter in all proportions.

### PREPARED COCOAS.

At a recent meeting of the Edinburg Chemists' Assistants' and Apprentices' Association, J. S. Liversidge reported the results of his examination of five commercial varieties of prepared cocoa, as follows:

Sample.	Moisture.	Fat.	Theobromine.	Total Nitrogen.	Coagulable Nitrogen.	Albumen.	Asb.	Added sugar and starch.
1	6.0	30.5	1.7	3.56	1.9	12.03	4.0	none.
2	4.3	35.0	1.5	3.11	2.3	14.87	8.5	none.
3	5.7	30.5	1.3	3.25	1.5	14.81	6.3	none.
4	4.5	16.2	0.2	1.19	0.7	4.59	1.7	40
5	6.0	24.7	0.3	1.15	0.7	4.37	1.7	..

### AGING WHISKEY.

#### THE INSURANCE COMPANIES' VIEW OF THE ARTIFICIAL METHOD.

Age improves whiskey, and temperature is substituted for time in producing something of the same result. As this is attended with more or less development of alcoholic vapor, the heating of whiskey becomes an element in advancing the distillery fire hazard, but the character of the jeopardy is not yet well defined. In the South, whiskey distillers are giving fresh attention to such heating, and aging rooms with capacity for several hundred barrels of the liquor have been fitted up and made as air-tight as possible. A temperature as high as 170 deg. is introduced by hot steam pipes. Whiskey (hydrous alcohol) boils at a point between the 173 deg. F. of the alcohol and the 212 deg. of the water. The hydro-carbon inflammability of the alcohol is reduced by the water percentage, and alcohol is of slower combustion than benzine, and alcohol vapors consequently not explosive to the degree of benzine vapor. But the uncertain or insidious fire kindlers are apt to be more destructive than more positive ignitives, from being neglected. As a rule, people take care that gunpowder does not get a chance to explode. Compared with 100 deg. of temperature, 170 deg. would be far more generative of the inflammable vapor and at a higher stage of diffusiveness. With the latter condition

the gas would reach a more distant fire flame or light. We would think ten gallons of gasoline with a temperature of 90 deg. and 100 barrels of whiskey with a temperature of 170 deg. to be equivalent fire risks.

TO DETECT COPPER IN PICKLES OR GREEN TEA.—Place a few of the suspected leaves, or some of the pickles cut small, into a test tube or a two-ounce white glass phial, and add two drams of water and four drams of liquid ammonia; shake the bottle and allow to subside, when, if only a small proportion of copper be present, the top solution will assume a distinct and fine blue color.

THE PRODUCING POWER OF THE BANANA is forty-five times that of the potato. The dried fruit is readily converted into nutritious flour; it may also be manufactured into sausages; beer can be made from it, while the skin can be turned into cloth, and the juice made to do service either as ink or vinegar.

## HYGIENIC.

### FIVE MINUTES' EXERCISE.

#### HOW A MAN MAY FIND AN AMPLE GYMNASIUM IN HIS CANE.

There are a good many men who know they need some physical exercise daily, but who put off beginning it, from year to year, on account of the time they think it would take away from their business hours. Few men seem to be aware that five minutes spent in daily or even three times weekly in exercise properly selected for bringing out all the principal muscles of the body are sufficient to set the blood coursing freely to the extremities, to stimulate the heart, to massage the bowels, to stir up the liver, to strengthen the limbs, to straighten the shoulders, and increase the capacity of the lungs. This is a good deal to claim for five minutes' exercise, and seems to suggest the use of elaborate gymnastic apparatus. It is not too much as has been proved, and all the apparatus required is an ordinary walking stick. Elaborate systems of exercise look more promising of results at the first glance, but as they consume time, busy men generally drop them after a few trials.

Mr. C. P. Lenhart, physical instructor of the Manhattan Athletic Club, who is a graduate of a medical college, but abandoned his practice of curing diseases and has devoted his energies for the last ten years to the prevention of them by means of physical culture and the proper observance of hygienic rules, and who has met with marked success in that line, and is in himself a striking example of well-developed manhood, recommends the following exercises to busy men on rising in the morning or just before going to bed at night, in order that all the organs of the body may perform their natural functions:

For the upper part of the arms: Grasp the cane firmly at both ends with the hands and hold it across the chest, letting the middle of the cane rest on the breast just under the chin. Drop the hands forward and down to the full length of the arms rapidly and return to position on the chest, accenting the upward movements. Continue this for thirty seconds. Holding the cane as before, push the arms straight above the head, full length taking long full breaths. Continue this for thirty seconds more.

If the arms are poorly developed this may be repeated after the other exercises are completed. When the arm is doubled up so that the fist is

near the shoulder, the biceps ought to measure about two inches more in circumference than the forearm.

For the muscles of the sides: With the arms at full length above the head and the hands grasping the cane as in the end of the last exercise, swing from side to side as far as possible; time thirty seconds.

Here pause and take two long deep breaths of five seconds each.

To strengthen the muscles of the back and rid the abdominal muscles of fat: Holding the cane as in the last position at arm's length above the head, bend forward and bring the cane as near the floor as possible without bending the knees or elbows; then swing as far backward as possible without losing your balance. Do this briskly for thirty seconds.

This will make a large waist smaller, if persisted in. It is good for lumbago also, and will help those who bend over a desk all day.

To strengthen the forearm: Grasp the cane in the middle with one hand and extend it at arm's length, on a level with the shoulder. Then twist the cane back and forth, like the spokes of a wheel, for twenty seconds. Then change hands and repeat for twenty seconds more. This will also strengthen the grip.

For the legs, ankles and knees: Grasp the cane again with both hands, as in the first exercise, and with arms fully extended from the shoulders straight out in front, drop the body to a sitting position, by bending the knees and ankles. Raise the heels from the floor in going down, and after coming up again to full height on the heels, rise on the tips of the toes. Continue this slowly for forty-five seconds.

The further you go down the more severe will this exercise be. Don't go down far till you are used to it. It gives the heart a good deal to do and should not be executed too rapidly.

Here pause again, and take two long deep breaths, five seconds each.

For strengthening the neck and straightening stooped shoulders: Drop the cane and clasp both hands back on the top of the head. Let the elbows point straight forward. Drop the head forward and down so that the chin touches the chest. Pull on the arms so as to put a tension on the neck muscles and then push the head back to an erect position. Throw the chest forward as the head and shoulders go back. Continue this for thirty seconds. If the head is thrown back with the chin held down, we can hardly help standing erect.

Take two more long deep breaths, five seconds each.

For kneading the lower part of the bowels, stirring up the kidneys and liver and preventing constipation, stand erect and kick at the chest with each knee alternately, bringing the knee up as high and close to the body as possible. Continue this for twenty-five seconds. This gives practically a Swedish massage to the bowels.

Pause now and take two long full breaths, five seconds each.

This is the least amount of exercise a man should take, and it would be none too much for women and old people. For the young and robust these exercises might be doubled, and while it is far from being a complete system of muscular development, its brevity recommends it to busy people, and it is complete enough to give admirable results, if followed regularly for some length of time.

Some may ask, "How can I time myself accurately while going through these motions?" "By counting," is my answer. Get some one to time you when first you try it. Some motions you



will perform once a second; others once in five seconds. Thus you will see that when you have done the first motion, say thirty counts, it is time to take up the next one, and so on to the end of the series. That is a simple matter, and if you should get through the series in a little less than five minutes, or a little more, that is of no account.—*Popular Medical Monthly*.

### SOFT, WHITE HANDS.

The hands may be kept clean and soft by washing them in lukewarm water containing a little ammonia or borax. A little oatmeal mixed with water will whiten them. The roughest and hardest hands can be made soft and white in a month's time by attending to them at bed time, with a nail brush, borax, and a piece of lemon for stains.

When the hands are chapped and sore, mutton suet is the most healing of all remedies. Apply as often as convenient, after washing and wiping the hands thoroughly, and the soreness will soon disappear. Glycerine is good for some persons who have chapped hands and not for others, for it is irritating to the skin in some cases. Sunburnt hands may be treated with lime water or lemon juice. Gloves save the hands from much wear and tear and staining, and, if the fingers are cut off, do not hinder work. A housekeeper gives the following recipe for a preparation to be used upon the hands before retiring: One gill of honey, one gill of sweet oil, one ounce of yellow wax. Boil together and stir till cool.

To soften and whiten the hands one writer says there is nothing like real almond paste, made from sweet and bitter almonds pounded in a mortar. For hands which are red and coarse, the following treatment will soon effect a change, but it must be persevered in, as it is impossible to change the color and texture of the skin within a few days. Use warm water always, and only of medium warmth if you are subject to rheumatism or chilblains. Apply fine oatmeal with a puff after you have washed, dried, and rubbed the hands briskly. Use rather warm water at night, and apply a nail brush all over the hands. When dry, apply almond paste and sleep in easy fitting gloves.

The best way to make almond paste is to take two ounces each of sweet and bitter almonds, pound to a paste, mix with half an ounce of Windsor soap cut into fine shreds, add two drachms of spermacetti, half an ounce of oil of almonds, and twelve drops of oil of bergamot. Heat gently, stir well, and finally cool. Cold cream mixed with oil of almonds is a good substitute for almond paste, but does not whiten the hands so much, although it softens the skin. This is prepared by mixing half an ounce each of spermacetti and white wax, four ounces of oil of almonds, two ounces of orange or elderflower water. Before the last is added, heat the other ingredients gradually, and when liquid add the orange water and stir gently.

When the hands are of good color, but need softening, glycerine will do. After the nightly wash, coat with glycerine and powder with oatmeal. Gloves are necessary and should fit well at the wrists. Some manicures advise the use of glycerine and bran which has been stewed in water. The bran is used quite moist. A correspondent writes that the most beautiful hands she ever saw were those of a governess, who, since she was seven years old, had worn gloves on her hands every night, and had never done anything else to care for them.

According to a German physician, the art of

washing the hands is not an easy one. To insure absolute cleanliness, the hands must be first carefully washed with potash soap and water as hot as can be borne, and then with a 5 per cent solution of carbolic acid, or one per thousand solution of corrosive sublimate, or chlorine water.

When the finger nails are dry and break easily, vaseline rubbed on after washing the hands will do a world of good. Manicures first bathe the hand a long time in hot water, then with scissors and knives clean and cut the nails, remove the superfluous skin about the onyx, then polish the nails with buckskin and fine powder, washing hand again in hot water with soap. After drying, the nails are polished with a fine brush, and are finally rubbed with a rosy unguent to give them a shell pink.

There are numerous ways to remove warts. A good, simple, and harmless way is said to be the saturating of the wart with lemon juice two or three times a day for several days or a week.

The wart will then disappear gradually and without pain, leaving no mark. Another way is to use common washing soda, and apply it frequently.

### FACTS ABOUT HAIR.

Hair is very elastic; it can be stretched to almost one-third its own length, and regains its former length almost perfectly.

The strength of the hair is much greater than one would suppose. A single hair has supported a weight of 1,150 grains, or nearly two ounces and a half, though the breaking weight is generally less than this.

It has been estimated that a man, by shaving the beard, removes between six and seven inches in the course of the year; so that a man eighty years of age will have removed not less than twenty-seven feet of beard during his life.

On the scalp of a man twenty-five years of age, Prof. Wilson counted 734 hair-pores in the inch. If each gave exit to but one hair, the entire number on a scalp which measures one hundred and twenty superficial square inches would amount, in round numbers, to 90,000; but as many openings give exit to two or more hairs, he estimated the total number on an average head of hair at about 120,000.

In regard to the size or diameter of the hair, it is by no means uniform. Few, if any, hairs are ever round. Wilson has measured a large number of hairs, and found the diameters to vary from one one-thousand-five-hundredths to one one-hundred-fortieths of an inch. The common diameter of the average hair is about one one-hundred-fiftieths of an inch, that is, four hundred and fifty laid side by side would form a band an inch wide.

Hairs vary very greatly on the different parts of the body both as to length and size, from the finest lanugo, or short, downy hair on the face, to the long hair of women. Wilson mentions a lady whose longest hairs measured seventy-five inches, she standing five feet five inches in height, her hair being then nearly a foot longer than her height. A story is told, on good authority, of a carpenter whose beard measured nine feet in length he carrying it in a bag when at work; also of another individual, a burgomaster in Holland, whose beard was so long that he was obliged to fold it up when moving about, and having failed to do so on one occasion, he trod on it while ascending a staircase, and was thereby thrown down and killed.

Newspaper headlines, like those other headlines, wrinkles on the forehead, do not always surmount a body of any particular importance.

### THE WAY TO REST.

To understand this, is of more importance than to know how to work. The latter can be learned easily; the former, it takes years to learn, and some people never learn the art of resting. It is simply a change of scenes and activities. Loafing may not be resting. Sleeping is not always resting. Sitting down for days with nothing to do, is not restful. A change is needed to bring into play a different set of faculties, and to turn the life into a new channel. The man who works hard, finds his best rest in playing hard. The man who is burdened with care, finds relief in something that is active, yet free from responsibility. Above all, keep good-natured, and don't abuse your best friend, the stomach.

### THE SECRET OF HEALTH.

Don't worry.

Don't hurry. "Too swift arrives as tardy as too slow."

"Simplify!" "Simplify!" "Simplify!"

Don't overeat. Don't starve. "Let your moderation be known to all men."

Court the fresh air, day and night. "Oh, if you knew what was in the air."

Sleep and rest abundantly. Sleep is nature's benediction.

Spend less nervous energy each day than you make.

Be cheerful. "A light heart lives long."

Think only healthful thoughts. "As a man thinketh in his heart, so he is."

"Seek peace, and pursue it"

"Work like a man, but don't be worked to death."

Avoid passion and excitement. A moment's anger may be fatal.

Associate with healthy people. Health is contagious as well as disease.

"Don't carry the whole world on your shoulders, far less the universe. Trust the eternal."

Never despair. "Lost hope is a fatal disease."

"If ye know these things, happy are ye if ye do them."—*Laws of Life*.

## MEDICAL.

### INFLUENCE OF BORAX AND BORACIC ACID ON DIGESTION.

BY R. H. CHITTENDEN, PH.D., PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

[Condensed from *Dietetic Gazette*.]

The widespread use of borax and boracic acid as preservatives of organic matter, especially of food products, makes it very desirable to have some definite knowledge concerning their action on the human organism. It is obviously a matter of considerable importance, for in the preservation of meat alone, as in the exporting of beef, considerable quantities of these agents are employed to assist in keeping the meat fresh during its long transportation.

The antiseptic qualities of borax and boracic acid have long been recognized, and there is no question that they both possess considerable capacity for preventing the multiplication of bacterial organisms. Indeed, this fact has been taken advantage of in a variety of ways, and in many therapeutic mixtures alone one or the other of these bodies is frequently made use of in virtue of its acknowledged antiseptic, or antifermentative power.



Such being the case, it is evident that we need all the data obtainable explanatory of the action of these two substances on the animal economy. What, for example, is the action of borax on nutrition, or on the more limited processes of digestion, absorption and excretion? We know that both borax and boracic acid are devoid of ordinary toxic properties; they have been too long used therapeutically for us to be ignorant on that point. But as to their action on the normal nutritional processes of the animal body we can speak with less certainty. To be sure, fragmentary studies have been reported from time to time, but there is little systematic work on record, verified by repeated experimentation, on which to found definite statements. Evidently there is needed, first, more definite knowledge regarding the action of borax and boracic acid in the alimentary tract, especially with reference to their possible influence on the three forms of digestion, viz., salivary, gastric and pancreatic. Do they have, for example, any disturbing effect upon amylolytic and proteolytic action; or, in other words, will the presence of either borax or boracic acid in the stomach and intestine modify to any injurious extent the normal digestive processes?

It has been the main object in the experiments about to be described, to obtain positive evidence on this point by the use of as exact chemical methods as are well applicable to this line of work. With this end in view, a quantitative study has been made of the influence of borax and boracic acid on the amylolytic or starch-digesting power of saliva, and on the proteolytic action of artificial gastric and pancreatic juice. In considering the results thus obtained, it must not be forgotten, however, that they throw no light upon the possible influence of these two bodies on the secretion of the several digestive juices, by which digestion may be indirectly affected, but only upon the chemical processes of digestion; or, in other words, upon the influence of borax and boracic acid on the action of the amylolytic and proteolytic ferments of the respective digestive juices. This, however, must necessarily come first; but we hope eventually to supplement these results by a series of feeding experiments on animals, with a daily analysis of income and output, from which we can draw conclusions as to the influence of borax on the nutritional process as a whole.

#### I. SALIVARY DIGESTION.

In studying the influence of borax and boracic acid on salivary digestion, human, mixed saliva, freshly collected, was employed.

From the results obtained, it is evident that borax tends to inhibit the amylolytic or starch-digesting power of saliva. This inhibiting action, however, is somewhat peculiar. Saliva, as is well known, is extremely sensitive towards many substances, this sensitiveness frequently showing itself in a complete cessation of all amylolytic action, even in the presence of only small amounts of the particular substance. With borax, however, the inhibition appears to consist simply in retarding the rate of action. Thus, even in the presence of 10 per cent of the salt, the conversion of starch into sugar still goes on, although at a much slower rate than in the presence of smaller amounts of borax. There is evidently no destruction of the amylolytic ferment, but simply a diminution in the rate of action.

A second series of experiments, where pure arrowroot starch was employed as the amylaceous material, were essentially corroborative of the former one, and, like that, shows that even in the presence of large amounts of borax—far larger

than could ever be taken into the system with articles of food—the saliva is still able to exert its peculiar digestive power, although at a slower rate than when borax is present.

In a third series of experiments the influence of boracic acid was tested, using arrowroot starch as the amylaceous material.

Here, it is to be seen that small amounts of boracic acid tend to increase rather than check the amylolytic action of neutral saliva (possibly due to a more complete neutralization of the fluid), and that even the presence of 1.0 per cent of the acid does not materially interfere with its starch-digesting power. It was further found that, under the conditions of the above experiment, the addition of boracic acid even up to 5 per cent did not prevent the conversion of starch into soluble products, although no reducing bodies were formed in the presence of this large amount of acid.

It is thus evident, from all of the above results, that the presence of moderate amounts of boracic acid will not materially interfere with the ordinary amylolytic or starch-digesting power of saliva. Borax, on the other hand, more noticeably diminishes the rate of amylolytic action; but even when present in such quantities as to completely saturate the starch-containing solution, there is no destruction of the ferment and no complete inhibition of ferment action; conversion of starch into sugar still goes on, even under such adverse conditions, a fact which tends to emphasize the comparative harmlessness of borax in salivary digestion. The worst that can be said in this connection is, that moderate amounts of borax tend to diminish the rate of action of the amylolytic ferment. Presumably, the same statements will hold good for the related amylolytic ferment of pancreatic juice.

(To be continued.)

#### METHYL-BLUE.

A year or so ago some progressive Eastern surgeons and pathologists began the use of some of the aniline colors upon morbid growths. The pyoktanin, blue and yellow, and fuchsin were employed, both topically and as injections into diseased tissue. Old chronic ulcers, rapidly proliferating epithelial growths, pus-secreting cavities, and other foul surfaces were found to do well under the proper use of pyoktanin. Our dye specialists, I believe, now use the yellow pyoktanin.

In the spring of 1891, while attending physician to the German Protestant Orphan Asylum, in which we have from ninety to one hundred and ten little ones, we had a siege of diphtheria which ran through the whole institution in spite of all the prophylactic measures we could adopt. Out of the first five cases, following the old line of treatment, we lost three cases. Yet, considering the virulence of the epidemic, I considered myself fortunate to save two. In desperation I began to search for something new, knowing that the Krebs-Loeffer bacillus was most readily stained by methyl-blue dye, and that it was both antiseptic and astringent. I determined to try it locally, which I did in the strength of one to eight. I found considerable relief given the patients. At this time I called Dr. J. B. Marvin in consultation and he suggested that the drug be given internally, as it was non-toxic, save in large doses, and the toxic symptoms were then due to the arsenic and zinc which it contained as impurities. I began giving it in two-grain doses every two or three hours. What the action in diphtheria is I am unable to state, save in fifty-two consecutive

cases treated in the asylums and in private practice I never lost a case. All these cases were beyond the possibility of mistaken diagnosis. After giving one single dose of the drug, the urine became very blue (showing rapid dissemination and elimination of the drug), and would remain so for five or six days afterward—specific gravity 1,016-1,021; no albumen, no casts, no epithelia, an increase in quantity of urine, without any evidence at all of kidney irritation.—*W. F. Boggess, M. D., in American Practitioner.*

#### DISGUIISING THE TASTE OF CASTOR OIL.

Probably the most agreeable way to administer the oil is in an emulsion, and a formula for producing one is as follows:

Castor oil	1 oz.
Yolk of egg	1
Syrup	2 drs.
Tincture of orange peel	1 dr.
Water, to make	3 oz.

Rub the yolk up in a mortar, adding the oil by degrees; if occasionally too thick, thin with a little water. Then add the syrup, following with the tincture, and finally enough water to make the quantity.

Another mixture in which acacia is the emulsifying agent may be made in accordance with the following:

Castor oil	1½ oz.
Powdered gum arabic	2 drs.
Sugar	2 drs.
Peppermint water	4 oz.

Triturate the sugar and gum arabic, adding the oil gradually; when thoroughly incorporated add the peppermint water in small portions, triturating the mixture until emulsified.

It has also been stated that hot milk affords a vehicle which does away with the unpleasant taste of the oil to a certain extent.

#### INVENTIONS, SCIENCE, ETC.

##### HOW ELECTRICITY MAKES LIGHT.

A great number of people have but a very obscure idea of the principle of the arc and incandescent lamp respectively. It may be stated that in the arc lamp electric discharge takes place between two pieces of hard conducting carbon, separated from each other by an interval which is kept as nearly as possible constant by automatic devices. An arc of light of intense brilliancy, called the voltaic arc, is thus obtained. The carbons, being raised to an exceedingly high temperature and exposed to the air, suffer waste by combustion, and hence require renewal. There is also a transference of particles in the direction of the current, the negative carbon increasing at the expense of the positive one. With the view of obviating inconveniences arising from this cause, arrangements are often made for alternating the direction of the current. It is desirable both for the diffusion of light, and for the lessening of its otherwise painful and injurious intensity, that a globe of ground glass should be used. In the glow or incandescent lamp, a filament of carbon inclosed in a globe exhausted of air by a mercury pump serves as a path along which the current passes. The resistance the electricity meets with in passing through this filament is sufficient to raise the latter to incandescence, and a light is thus obtained more suitable for domestic purposes and the illumination of interiors generally than that afforded by the arc lamp.



### THE POSSIBILITIES OF RAILWAY SPEED.

There is no question about the development of a much higher rate of speed than that which even the fastest service on the railroads of to-day maintain. I presume that a speed of from 90 to 100 miles could be secured with modern locomotives and with the improvements which are sure to come.

But I am inclined to think that other influences may operate to prevent in the next century the running of railway trains at such a speed as I have seen mentioned in some of the newspapers. It is not a question of attaining speed, but a question of the control of the train after great speed has been secured. Suppose, for instance, that a railway train is going at the rate of 90 miles an hour. The engineer sees a danger signal or an obstruction on the track 1,000 feet away.

Now, experiments have shown that with a perfect brake, acting under the most perfect conditions, it is impossible to procure a greater retarding effect than would be equivalent to stopping a train going at the rate of 3 miles an hour in a second of time. It is, therefore, easy to make a computation of the effect of such a brake upon a train running 90 miles an hour within 1,000 feet. When the engineer had reached the danger signal or the obstruction, his train would be still going at the rate of 60 miles an hour, and if he was running his engine at the rate of 60 miles he could only check it to a rate of something like 40 miles an hour within that distance.

For this reason, I am inclined to think that the development of railway travel in the next century along the present lines will be not so much great speed as uniform speed. The ideal speed, I think, will be about 40 miles an hour and steadily maintained from the time of leaving one terminal

to the time of the arrival at destination. That will give most satisfactory results. A steady speed of 40 miles an hour would enable a train to run from New York to Chicago in a little over twenty hours, and with greater economy and far less danger. It is my impression, therefore, that railways in the next century will take on this development rather than high rates of speed.

I am also satisfied that the immense cost of furnishing power for electric railways, which some persons seem to think can secure and maintain a speed of 100 miles an hour or more, will make such a development commercially unprofitable, although there is no doubt that electricity as a motive power for passenger traffic will be extensively used in the next century.—*George Westinghouse, in Commercial Advertiser.*

### THE FISH THAT SWALLOWED JONAH.

PERHAPS IT WAS A WHITE SHARK INSTEAD OF A WHALE.

There is no argument valid upon a premise of inherent impossibility. It used to be concluded beyond question that there were no black swans, because it is impossible to conceive a black swan. But one harmless and unconscious black swan from the Antipodes puts all the ingenious thinkers to rout. Hume argued from his conception of a true induction that the major premise must include all possible cases. This he thought conclusive against a great deal of popular belief. But what test have we of the possible? It is harder to believe that we have explored and classified the whole field of knowledge, than that a ravenous fish—with no higher and no lower thought in its meagre brain than a plentiful dinner—should have swallowed and then disgorged a man. Besides, we are not without evidence

that such piscine conduct is at least possible. Jonah was sailing in the Mediterranean—right along its whole length—from Joppa in Palestine to Tarshish, in Spain; and it is in this very sea that even at the present day a huge fish, the white shark, is found; and not only this, but the bones of a much larger species now extinct. For the word used in the Bible is a general term for a large fish, and it includes in various writers, sharks, tunnies, whales, dolphins and seals. This white shark attains such a size that it has been known to weigh four tons and a half. One that was exhibited last century over Europe weighed nearly two tons, and very nearly re-enacted the part of Jonah's fish. A British war vessel was sailing in the Mediterranean when a man fell overboard. A huge shark instantly rose and the unlucky seaman disappeared within its mouth. The captain fired a gun at it from the deck, and as the shot struck upon its back it cast the man out again and he was rescued by his companions. They forthwith harpooned the fish, dried him and presented him to his intended victim.

In the beginning of this century a shark was taken at Surinam, and in it was discovered the body of a woman excepting the head. Instances are recorded upon good authority of specimens being found in the same sea; one with a sea-calf in its stomach as big as an ox, another with a whole horse, and another with two tunnies and a man. That a man could live there for a considerable time seems by no means impossible.—*Boston Democrat.*

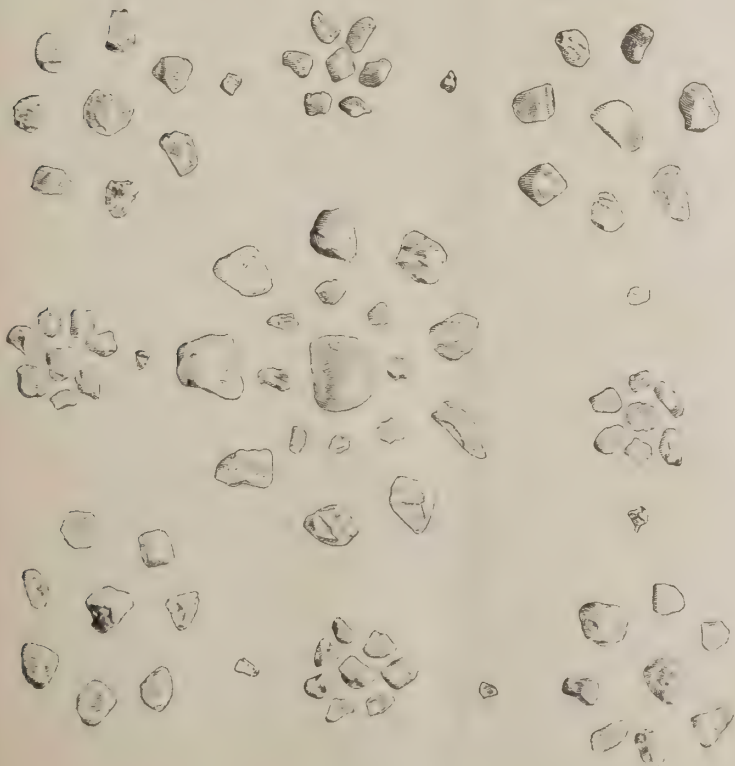
"Why do you apply for this position when I advertised for a French nurse? You are Irish."

"Thru for yez, mum. But I thought mebbee yez didn't know that the Oirish paypel shpakes betther English than thim Frinch."—*Harper's Bazar.*

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

**THOMAS F. GOODE, Proprietor,**  
BUFFALO LITHIA SPRINGS, VA.



## CHERRIES.

During the past three years the cherry crop of the extensive and famous orchards in the Orange mountain slopes has failed. Each season the trees have been laden with blossoms, but insects or dampness has destroyed the fruit. This year the promise is exceedingly good and great hopes are entertained of a bounteous supply of the big "Oxhearts," both black and white, for which this region is famed. A few persons, who cherish distinct preferences for having their fruit and worms separate, do not eat cherries; yet almost every one likes them. There are probably no exceptions to the general fondness of boys for them. Yet hardly any other fruit in the market causes so much stomachic and intestinal trouble as cherries. Vast quantities of them are eaten in an unripe condition, especially by boys, for the fruit will look ripe days before it really is so. Many more, particularly if they have been exposed to dampness, have upon them minute spots where decay has commenced and progressed much farther beneath the skin than is apparent on the surface, which are not esteemed worthy of notice by youthful devourers. And, even at their best, cherries do not combine harmoniously with other articles of food and drink. One who wishes his attention riveted upon his bowels for awhile can do nothing more effective to that end than taking in a refecation of cherries and buttermilk, for instance. When violent and unnatural testinal activity is induced, by this or any other cause, it is not wise to hastily employ severe remedies for the sudden checking of nature's efforts at relief

# A Tonic

For Brain-Workers, the Weak and Debilitated.

## Horsford's Acid Phosphate

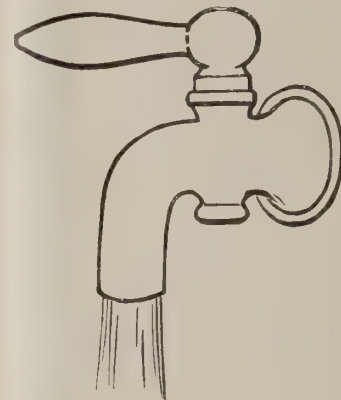
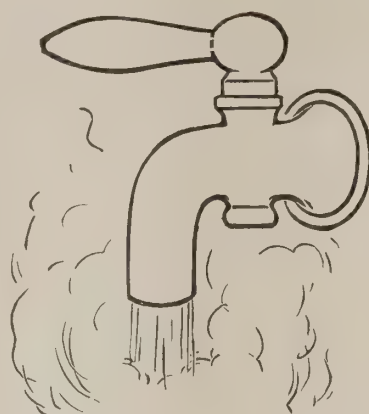
is without exception the Best Remedy for relieving Mental and Nervous Exhaustion; and where the system has become debilitated by disease, it acts as a general tonic and vitalizer, affording sustenance to both brain and body.

Dr. J. C. Wilson, Philadelphia, Pa., says: "I have used it as a general tonic, and in particular in the debility and dyspepsia of overworked men, with satisfactory results."

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.



In either of these, with a little *Pearline*, you can wash clothes more easily, more quickly, and more cheaply, than in any other way. You can, we say—but perhaps you don't have to. Then (?) the ease of it doesn't affect you so much. But the quickness, the thoroughness and the economy of it does. The less time that's spent on your clothes, the less it costs you—it's money in your pocket every time they're saved from the wearing rub, rub, rub of the old way. But the *water* doesn't make any difference. Use what's handiest. Hot or cold, hard or soft, salt or fresh, rain or shine, it's all the same if you have *Pearline*. When you *don't* have it there *is* a difference. 304 JAMES PYLE, New York

from the presence of an irritating foreign substance in the system. The intelligent treatment of such a case is in giving aid to her work. The fermenting matter must be expelled as promptly as possible, not retained to inflame the mucous lining of the intestines. And the agent employed for such expulsion should be one that will allay the inflammation already existent, stimulate the bowels to natural and healthful discharge of their all-important functions and not produce a reactionary constipation as a consequence of their temporary excitation. These essential requirements are best demonstrated by Ayer's Compound Cathartic Pills, a remedy of high and long established reputation in households and habitually prescribed, as a recognized standard preparation, by many physicians both in this country and Europe. Ayer's pills are not like many foisted upon the public, nerve laxatives, which by their viciously forceful action do infinitely more resultant harm than they can possibly effect of present good, but are, as their name suggests, truly cathartic, acting directly upon and through the liver and achieving their work by the stimulation of that organ. At the same time they exercise a similar influence upon the kidneys, which are always liable to be more or less seriously affected by any derangement of the regular functions of the liver and bowels. It is well worthy of remark that not only are these pills efficient, but they are so safe that they may be beneficially administered in proper doses even to infants and that no other "after dinner pill" will be found so eminently satisfactory in aiding the processes of digestion.

A report is going around that a British nobleman engaged to an American heiress is tattooed with his family crest. This heiress is a wise one. Her money may go in the usual style of American peeresses' incomes, but a coroneted museum freak can always place his family above the suspicion of want.

## BUSINESS NOTES.

STATE OF OHIO, CITY OF TOLEDO, } ss.  
LUCAS COUNTY,

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the city of Toledo, county and State aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this sixth day of December, A. D. 1886.

{ SEAL }

A. W. GLEASON,  
Notary Public.

Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.

Sold by druggists, 75c.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Panathly & Co.*

Producers of the

**ECLIPSE**

CHAMPAGNE,

530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets. O V Chablis, possessed of all the delicate pungency of its French counterpart.

O V Sauterne, with the exact character and *Seve* of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.



## FOR DYSPEPSIA

Use Horsford's Acid Phosphate. Dr. J. J. Mc-Williams, Denison, Ia., says: "I have used it largely in nervousness and dyspepsia, and I consider that it stands unrivalled as a remedy in cases of this kind. I have also used it in cases of sleeplessness with gratifying results."

## NEARING PERFECTION.

In the growth and perfection of appliances which make railway traveling luxurious and comfortable, the people of the United States have noted with much pride the progress that has been made in recent years. We have been for many years much better off in this regard than have the people of Europe. In the old countries the tracks have been so much more solidly and substantially built that until recently we have been behind Europe in the speed at which trains could be moved over the rails. This state of affairs has, however, been remedied. The great four-track New York Central & Hudson River Railroad has been patiently spending enormous sums of money upon the improvement of its road-bed, till to-day, with steel rails of massive size and weight, bridges and culverts of steel and solid masonry, block signals, and tracks ballasted with broken stone it can challenge any country in the world to compete with it. In point of fact, the traveler in America to-day, going west from New York via the New York Central, has his choice of five great limited trains, on each of which he may enjoy all the luxuries of a palatial home, or a completely equipped business office, and be whirled over the country at a rate of speed uniformly higher than is known anywhere else in the world, while at the same time he can keep thoroughly informed as to the state of the market and on all essential matters pertaining to his business. Truly, we are a luxurious people.

## A GREAT PACKING FIRM.

The *Economist*, a financial paper of some reliability, has this to say of Swift & Co.: Apropos of the recent increase of the capital stock from \$7,500,000 to \$15,000,000, showing that during the year ending December 31, 1892, the total sales were more than \$90,000,000; that the company slaughtered 1,189,498 cattle, 1,013,527 sheep, 1,184,692 hogs, and manufactured and disposed of the products therefrom. Among those products were 3,388,986 pounds of glue, 30,672 tons of fertilizers, 2,596,842 pounds of neatsfoot oil, 38,688,361 pounds of oleo oil, 2,039,604 pounds of wool, 7,009,017 pounds of butterine, 53,358,422 pounds of lard. There is invested in the real estate, buildings, machinery and what might be termed the fixed plant of the company, all of it necessary for the proper conduct of its business, over \$6,500,000. The surplus of the company January 28, 1893, was \$1,864,233.06

## THE STEWART HARTSHORN COMPANY'S ENLARGED PLANTS.

The Stewart Hartshorn Company finds that the enlargement of business compels the use for steel and iron working machines of all the space formerly occupied in E. Newark plant for turning and boring wood rollers. They have prepared a large factory in Burlington, Vt., where hereafter all their wood from Eastern sources will be got ready for the market.

The selection of Burlington as a manufacturing point was made after carefully considering many

places between Canada and Newark. With the advantages of water and rail communications, large building splendidly lighted, and fitted with the most modern machinery, everything will tend to prompt and economical production. This will make the fourth manufacturing plant in full operation by the Stewart Hartshorn Company for the production of their self-acting shade rollers.

## IN A NEWSPAPER'S LIBRARY.

JOURNALS WANT BOOKS FILLED ONLY WITH HARD, SOLID FACTS.

Perhaps no library is more carefully selected than the working library of a newspaper. There is no telling what the next hour will bring forth in the world of news, and yet a newspaper must be prepared to accept everything that comes along. Naturally its library contains books for work, not for show or mental diversion.

For that reason the volumes on the shelves are largely books of reference, biography, history, geography, science, arts and statistics. The selection must cover so much ground that any question submitted can either be answered in a few minutes, or after the further searchings suggested by some printed authority in the newspaper library. There is one work, however, that is invaluable to the newspaper man—the Revised Encyclopedia Britannica. No work of reference is handled as often, no other volumes are opened as frequently and no other product of the publisher's art is valued as highly as that epitome of the world's knowledge—the Revised Encyclopedia Britannica.

This is the work which we are offering our readers for ten cents a day, and the payment lasts for only ninety days. This paper goes on the principle that what is best for itself is good for its friends. It knows and thoroughly appreciates the value of the Britannica, and when it ascertained that it could place the twenty volumes in the hands of its readers for ten cents a day it gladly put out its famous Encyclopedia proposition. This greatest of all reference libraries, which you may now obtain for \$1 down and ten cents a day, will before long be out of your reach.

## MISCELLANEOUS.

## THE ORIGIN OF SOME OF OUR NAMES.

A recent article in *Blackwood's Magazine*, by Sir Herbert Maxwell, presents in a very readable form the derivation of a number of common names. It will be news, for example, to many of our readers that Snooks was once known as Sevenoaks. Eliza, it is stated, is not a shortened form of Elizabeth, but is the equivalent of Alice. Marion, we know, is in line with Marie, Mary and Maria. Patronymics have been much multiplied through pet names. The Saxons formed pet names by adding to the original name—often abbreviated—*kin* and *cock*, and the Normans introduced *et* and *ot*, and *en* and *on*. From William we have the pet names Will, Wilcock, Wilkin, Willet, Willy, Willamot, Willen, Bill and Guill. (Latin). From these we get, in order, Williams MacWilliam, Williamson, Wills, Wilson, Wilcox, Wilkins, Wilkison, Wilkinson, Willet, Willetson, Wilmot, Willing, Bilson, Gill, Gilson, Gilkins, Gilkison, Gillon and Gillott. Robert—through Robin, Dobb, Hob, Rob and Hobkin—gives us Roberts, Robertson, Robins, Robinson, Robison, Probyn, Dobbs, Dobson, Hobbs, Hobson, Robbs, Robson, Hopkins and Hopkinson. Philip gives us Phipps, Philplot and Philpotts. Richard has been distorted by affection into the pet names Rick, Richle, Dick, Diccon, Hitchin and Hitch-

cock. From these in turn we have Richards Richardson, Rickards, Pritchard, Rixson Ritchie, Ritchison, Dick, Dixie, Dixon, Dickens, Dickenson, Hitchins, Hitchison, Hitchcock and Hitchcox. David has given us Davidson, Dodson, Dodds, Davy, Davidson, Daw, Dawson, Dawkins and O'Dowd.

We have from Henry the derivations Hal, Hallet, Harry, Harriet, and Hawkins. From John we get Jack and Jenkins; from Simeon, Simkins. Thackeray's ancestor was a thatcher. Malthus got his name from malthouse, and the common family name of Bacchus would be more correctly spelt bake-house. Macpherson means parson's son. Vickers was the vicar's son. Wallace means a Welshman, and Bruce is a Norman name. Sinclair, Montgomery, Hay and Vance are, like Bruce, names derived from lands in Normandy. Many English surnames end in ford, ham (house), lea, ton (farm) and by (dwelling), from the old practice of naming persons after their native place. Aylesford, Grimston, Habersham and Ormsby are examples. Winslow is from words that mean Wine's Hill. From Lea we get Lee, Leigh and Legh. The Welsh Ap, son, with Robert, has become Probert, Ap Rhys has become Price, Ap Owen has become Bowen and Ap Hugh has become Pugh. A prosperous Dublin snuff dealer named Halfpenny has had his appellation shortened, it is narrated, to Halpen, and then enlarged to an imposing MacAlpin. It is interesting in this connection to know that Finn and Findlay are Celtic surnames equivalent to our White. Duff, Macduff and Dow are for Black. Glass is for Gray. Roy, Corkran and Cochrane all mean red. Our Mr. Brown is in Celtic Mr. Dunn or Mr. Donnan, Moore and Moran answer to our Bigg. On the other hand, Beggs is good Celtic for Little or Small. Oliphant (elephant) is a name derived from a shop sign. The reader will perceive that many of our Christian names and surnames have had curious histories.

"I speak not out of weak surmises,  
but from proof."

**LARD  
MUST  
GO**

since COTTOLENE has come to take its place. The satisfaction with which the people have hailed the advent of the New Shortening

**Cottolene**

evidenced by the rapidly increasing enormous sales is PROOF POSITIVE not only of its great value as a *new* article of diet but is also sufficient proof of the general desire to be rid of indigestible, unwholesome, unappetizing lard, and of all the ills that lard promotes. Try

**Cottolene**

at once and waste no time in discovering like thousands of others that you have now

**NO USE  
FOR LARD.**

Send three cents in stamps to N. K. Fairbank & Co., Chicago, for handsome Cottolene Cook Book, containing six hundred recipes, prepared by nine eminent authorities on cooking.

Made only by  
**N. K. FAIRBANK & CO.,**  
Chicago, St. Louis, Montreal, New York, Boston, Philadelphia, San Francisco, etc.



## BOOK REVIEWS.

## THE CALIFORNIA MAGAZINE.

The July *Californian* will be one of the finest examples of magazine making ever produced west of New York. It will contain over 150 illustrations and almost twice the usual number of pages. The cover will be decorated with poppies in their natural colors; and some of the writers are Ina D. Coolbrith, Charles Edwin Markham, Sarah Orne Jewett, Rose Hartwick Thorpe, Joaquin Miller, Hon. Thomas J. Geary, John Vance Cheney, Richard H. McDonald, Jr., Dan de Quille and many others. The contents of the magazine cover all the Pacific Slope from Alaska to Southern California, and from Salt Lake City to Genoa, Italy. A timely paper is on the Law and the Chinese, by the framer of the Geary bill, Hon. Thomas J. Geary.

## BLAINE'S HANDY MANUAL OF USEFUL INFORMATION.

There has just been published in Chicago a most valuable book with the above title, compiled by Prof. William H. Blaine, of Lancaster University. Its 500 pages are full of just what its name implies—useful information—and we fully advise all our readers to send for a copy of it. It is a compendium of things worth knowing, things difficult to remember, and tables of reference of great value to everybody, that it has never before been our good fortune to possess in such compact shape. Our wonder is how it can be published at so low a price as is asked for it. It is handsomely bound in flexible cloth covers, and will be sent to any address, postpaid, on receipt of twenty-five cents in postage stamps, by the publishers, G. W. Ogilvie & Co., 276 and 278 Franklin street, Chicago, Ill.

## THE ARENA FOR JULY.

The fiction in the July *Arena* is a very notable feature. "The Confessions of a Suicide," by the well-known author and critic, Coulson Karnahan, is one of the most weird, and in a peculiar way powerful, creation of recent years. Those looking for something out of the ordinary should peruse this extraordinary paper. "The Charities of Dives" is entirely different, and in it Mr. Carman in a most interesting way deals some telling blows against present day injustice. "Who Broke Up De Meeting," by Miss Will Allen Dromgoole, lightens the number, it being a charmingly humorous sketch in negro dialect. There are also in this issue many strong papers on political, social, religious and literary subjects, beside the first instalment of the verdict of eminent jurors in the Bacon-Shakespeare trial. Among those who render opinions in this case in the July *Arena* are the Marquis of Lorne, Dr. Alfred Russell Wallace, D. C. L.; O. B. Frothingham, Appleton Morgan, L. L. D.; Rev. C. A. Bartol and Henry George. The *Arena* for July is the most up-to-the-times review of the month.

## THE QUARTERLY ILLUSTRATOR.

The forthcoming number of the *Quarterly Illustrator* will be a special summer issue, and will contain over 200 superb illustrations, by 110 well-known artists. This exceptionally large number of illustrations, and the unusual interest of the articles which they accompany, make the third issue of this popular magazine the finest single publication of any art journal ever put forth in this country. The size has been increased to 104 pages of reading matter, and

## KNOWLEDGE IN YOUR OWN HOME.



## WHY WRITE TO THE EDITOR?

And sign yourself "A constant reader" or "An old subscriber," if you want to know when Christopher Columbus discovered America, or the date of the great fire of London, or what is good for whooping cough.

It is true the editor is only too willing to oblige you, but why get your information at second hand? Is it not better to have it in your own head, ready for use at all times, and to realize in its full significance that "knowledge is power?"

All knowledge is useful, but well assorted, well digested knowledge will enable you to fill satisfactorily any position in life to which you may be called.

How is the best way to acquire this knowledge? Not by a stray question, asked at odd times, but by having by you in convenient form, the best and most carefully arranged compendium of human knowledge extant.

You know with what care the present edition of the Bible was revised. How many learned men consulted for months over each chapter, each paragraph. How every word was weighed with thoughtful care, so as to bring out its best and truest meaning.

In the same way scholarly men, well versed in all branches of knowledge, selected on account of their emiuece in the professions which they adorned, labored for years to produce in concentrated form a comprehensive library of all useful facts. The result of their labors was the *Revised Encyclopedia Britannica*. It is a wonderful work. It contains the history of all things and an explanation of natural phenomena. It is as useful to the carpenter as it is to the poet. It remains for us to place this useful work within reach of the people. For the price of one cigar a day, the poorest workman may make himself master of any art, and have at home a library that will be the pride and delight of his wife and children.

## A GREAT OPPORTUNITY.

On receipt of only **One Dollar** we will forward to you, charges prepaid, the entire set of 20 volumes, the remaining \$9.00 to be paid at the rate of **10 cents a day** (to be remitted monthly). A beautiful dime savings bank will be sent with the books; in which the dime may be deposited each day. This edition is printed from new, large type on a fine quality of paper, and strongly bound in heavy manilla paper covers, which with proper care will last for years. Bear in mind that the entire 20 volumes are delivered to your address, with all charges paid to any part of the United States.

This special offer is made only to the readers of the *AMERICAN ANALYST*, and will remain open for a limited time only.

Cut this out and send to *AMERICAN ANALYST*, 19 Park Place, New York.

## AMERICAN ANALYST:

Please deliver to me the entire set of 20 volumes of *Revised Encyclopedia Britannica*, as above described, together with your *Dime Savings Bank*, for which I enclose **One Dollar**, and further agree to remit 10 cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

Name \_\_\_\_\_

Post Office \_\_\_\_\_

County \_\_\_\_\_

State \_\_\_\_\_

THIS INCLUDES A PAID SUBSCRIPTION TO THE  
AMERICAN ANALYST FOR ONE YEAR.



among the eminent painters and illustrators whose productions are found in the contents of the *Quarterly Illustrator* are: C. S. Reinhart, J. Carroll Beckwith, H. Siddons Mowbray, Julian Riggs, C. D. Gibson, Hughson Hawley, William Sargeant Kendall, Alice Barber Stevens, Victor Perard, R. F. Zogbaum, Wilson de Meza, Joseph Lauber, Marie Guise Newcomb and many others. Such well-known writers as F. Hopkinson Smith, Charles de Kay, Alexander Black, Frank Fowler, Frederick W. Webber, and Perriton Maxwell, have furnished the text, a novel attraction of which is an article on the summer studios of most of our leading artists, with numerous drawings of their warm weather ateliers, made especially for this number of the *Quarterly Illustrator* by the artists themselves. This notable issue will make its appearance about July 5. Published by Harry C. Jones, 92-96 Fifth Avenue, New York.

#### A LITERARY SENSATION.

"Uncle Tom's Cabin" has certainly "broke loose!" The copyright on this most famous of American novels, by Mrs. Stowe, has recently expired, which frees its publication from the monopoly of the high-priced publishers, and though in anticipation of this fact they have within a few months greatly reduced its price, now that

it is really "unchained" the consequences are something surprising. John B. Alden, publisher, of New York, issues several editions, selling them only direct (not through agents or book sellers); one in good type, paper covers, for 5 cents, sent post-paid, or the same bound in cloth for 10 cents with postage 7 cents extra; also an excellent large-type edition, on fine paper, handsomely bound in cloth for the price of 25 cents, postage 10 cents. Surely a copy of "Uncle Tom's Cabin" will soon be found in every home where it is not already. Mr. Alden sends a 32-page pamphlet describing many of his publications free, or a catalogue of 128 pages of choice books, a veritable "literary gold mine" for book-lovers, for 2 cents. Address John B. Alden, publisher, 57 Rose street, New York.

In the manufacture of kid gloves in France various materials are employed, chiefly sheep, goat and kid skins, though cat, rabbit and rat skins are employed. In a recent United States Consular report it is said that in the preparation of the skins large numbers of yolks of eggs are employed. Grenelle manufacturers have special agents to buy yolks in large cities, and this explains why omelets usually look pale at hotels and restaurants; they are made of two whites and one yolk, and are paid for as if made with two complete eggs.

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CORN STARCH  
For the Table.

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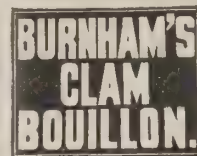
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## PATENTS

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Write for information.



## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

R. E. P.: Root beer, or birch beer as it is sometimes called, when properly made is a healthy refreshing drink. We have not yet examined the various so-called extracts for making root beer so much advertised therefore cannot answer your question as to their worth.

MRS. J.: The question whose hams are best is not easy to answer. It largely depends upon your taste. Ferris hams are always reliable. The Baltimore and Cincinnati hams you mention are also good.

Mrs. Smith—And how is your neighbor?

Mrs. Brown—She's well enough, I suppose. I haven't seen her to speak to for six weeks.

Mrs. Smith—Why, I thought you were on the most friendly terms.

Mrs. Brown—Well, we used to be; but we've exchanged servants.

MIRRORS should be washed with warm soap-suds, and dusted with prepared chalk on a puff or pad of common wool; then polish with a cham-ois leather.

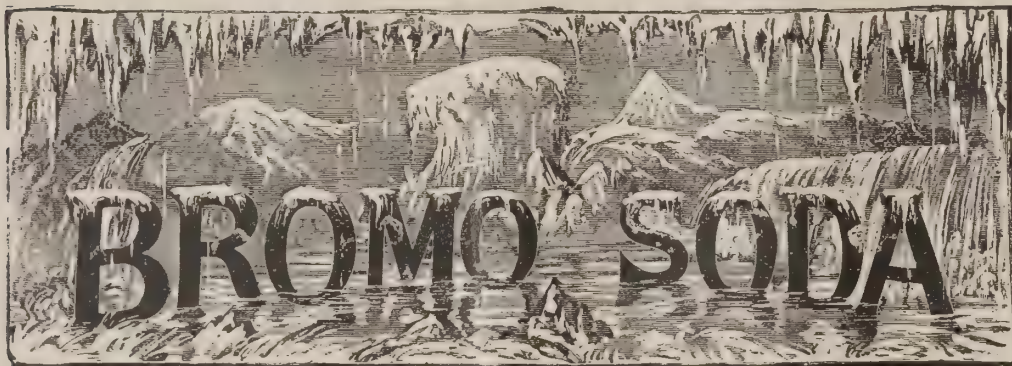
REFRIGERANT TAMARIND DRINK.—Boil six ounces of tamarind fruit and one ounce of sassafras chips in two pints of water for ten minutes, and place on one side to cool; then strain it and it is ready for use.

CLEANING BOTTLES.—It is surprising, says Dr. F. Sawyer, how many persons persist in cleaning bottles with shot after the frequent cautions which have been given time and again. Nothing cleans bottles so easily as a handful of shot, which can be shaken into every corner until the glass fairly shines with cleanliness, but the danger of lead poisoning is great, even when the bottle is rinsed out with clean water, and it is doubly dangerous when there is no rinsing at all, as is frequently the case. Clean sand is a convenient and thorough bottle cleaner, especially as the particles of sand which stick to the sides and bottom must be afterwards washed out to complete the process. When time is not an object, a bottle can be well cleansed by the aid of potato parings, but as they must be corked in and left to ferment the plan is not expeditious enough for general use.

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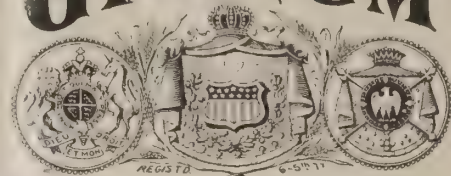
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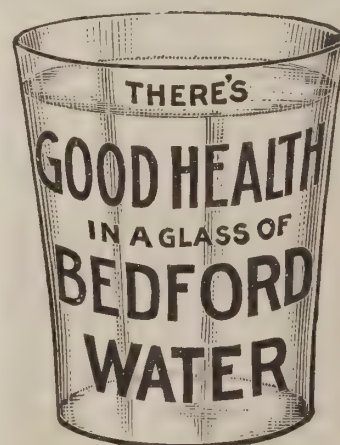
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

JULY 15, 1893.

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## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### ICED TEA A LA RusSE.

To each goblet of cold tea (without cream) add the juice of half a lemon. Fill up with pounded ice, and sweeten.

#### STRAWBERRY JELLY.

Mash one quart strawberries to a pulp, and strain through coarse muslin. Mix one cup of sugar and juice of one lemon with two-thirds of a package of Coxe's gelatine that has soaked in one cup of cold water for an hour; stir well and pour over this one pint of boiling water. Stir

until clear. Strain through flannel bag, add the juice of fruit, strain again. Put in a mould on ice.

#### SYLLABUT.

One quart rich cream, the whites of four eggs, one glass white wine, two small cups powdered sugar. Flavor to taste. Whip half the sugar into the cream—the rest with the eggs. Mix these and add wine and flavoring at the last.

#### FRIED CHICKEN.

One tender young chicken cut into joints. Two eggs beaten light and half a cup cracker crumbs. Lay the chicken in salt and water fifteen minutes; wipe dry, pepper and salt, dip in the egg, then in cracker crumbs, and fry slowly in hot lard. Drain dry, pile on hot dish, decorate with parsley.

#### FRICASSEED LOBSTER.

Meat of a good sized lobster, boiled, cut in pieces half an inch square; add one cup of rich veal or chicken broth quite thick, pepper and salt to taste. Put into a saucepan and stew gently five minutes. Add half a cup of cream, and when on the point of boiling, stir in a teaspoonful of butter. When this is melted, take the saucepan from the fire, and stir in very quickly the juice of half a lemon. Boston crackers, split, delicately toasted and buttered while hot are a nice accompaniment to this fricassee.

#### FRUIT SALAD.

Pare, core and slice a ripe pineapple. Pile it in a glass dish as nearly its shape as possible; divide four oranges into pieces, remove the seeds, and arrange them around the pineapple; cut four fine bananas into lengthwise pieces and arrange around the oranges; add a few grapes of mixed colors. Make a cup of clear sugar syrup and to it add half an ounce each of brandy, maraschino and curacao; pour over the fruit, and serve.

#### STRING BEAN SALAD.

Remove the strings from two quarts string beans, boil in salted water three hours, drain and cool. Mix them with salad dressing and put on ice for an hour.

#### CANNED PINEAPPLE.

Pare and take out the eyes. Cut in pieces or grate, then take half a pound of sugar to a pound of fruit and cook until tender. Seal in cans while hot as quickly as possible. No water is required.

#### SPICED CURRANTS.

To five pounds of fruit put four pounds of sugar, one pint vinegar, two pounds chopped raisins. Spices to taste—cinnamon and cloves. Cook about twenty minutes.

#### CURRANT JELLY.

Do not stem fruit. Take leaves off. Put in preserving porcelain kettle, add a very little water. Cook a few minutes, about fifteen. Strain, and to every pint of juice put one pound cut sugar. Let juice cook alone fifteen minutes, then add sugar and cook five minutes. Skim, and put in glasses.

#### RICE MUFFINS.

One pound sifted flour, two heaping teaspoonfuls baking powder, a pinch of salt, then add one cup cold boiled rice, two eggs, one teaspoonful butter, and enough sweet milk to make a thick batter. Bake at once.

### THREE TEMPERANCE BEVERAGES.

From an English journal we copy the following suggestions for non-alcoholic drinks:

"Stokos is prepared thus: Put from four to six ounces of fresh oatmeal, ground as fine as flour, into a pan, mix with a little cold water to the substance of cream, then add five or six ounces of loaf sugar and a fresh lemon cut in slices with the pips taken out; add a gallon of boiling water. Stir thoroughly while the water is being poured on. Use hot, warm or cold. The lemon may be omitted or any other flavoring used instead. Costs 3d. a gallon, or five gallons 1s.; four lemons are enough for five gallons.

"Cokos is a good nourishing drink, made as follows: Put four ounces of fresh fine ground oatmeal, four ounces of cocoa into a pan mixed with a little cold water into a thin batter, then add six ounces of sugar, pour on a gallon of boiling water (stir while water is being added). Take to the field in a stone jar. Costs 4d. a gallon.

"Hopkos is a good harvest drink: Boil one-half ounce of hops and one-half ounce of ginger (bruised) in one and one-half gallons of water for twenty-five minutes; add one pound of best brown sugar, and boil ten minutes more; then strain and bottle, or put into a cask while hot; it will be ready for drinking when cold. It should be kept in a cold place. Dried horehound may be used instead of hops. Costs 3d. a gallon."

The inventor of "stokos, cokos and hopkos" is Mr. John Abbey of Norwich, who says they have become quite popular with the crop-gatherers of 1892.

### WHAT TO DO WITH PINEAPPLES.

The pineapples now in the market are of the strawberry or bird's-eye variety, which are much more acid than the sugar-loaf variety, which come into market later, says the New York Tribune.

Occasionally Queen Anne pineapples and Ripley pines, two especially fine varieties of this fruit, may be found in market this month. But as these choice pineapples cost from forty to fifty cents apiece, they are too expensive for cooking or preserves.

The strawberry pineapple in spite of its acidity, makes a very good compote, and is nice for dessert.

For a compote, peel the pineapple and cut it in slices about a quarter of an inch thick. Remove the core. Make a syrup of a cup of sugar and a cup of water. Let it boil for about five minutes.

Pour it hot over the sliced pineapple and let the fruit steep in this syrup well covered for twenty-four hours. Then drain the pineapple and boil



down the syrup for ten minutes more, until it begins to thicken. Pour it hot over the pineapple again, and when the dish is cold serve it.

A great many desserts may be made from the strawberry pineapple, and it is often considered better for this purpose than the sweeter sugar-loaf pine, while it possesses the advantage of being much cheaper.

For a pineapple pie prepare the pineapple, chopped fine or grated, and otherwise made ready for a compote.

Have a shell of nice pastry spread with a little apple sauce—just enough to glaze the crust. Fill the pie plate with pineapple and arrange strips of pastry across. Bake the pie about forty-five minutes in an oven quite hot for the first fifteen minutes and a very little more moderate for the last half hour.

When the pie is removed from the oven dredge it with powdered sugar and set it back in the oven just long enough to allow the sugar to melt. Serve it cold.

#### A PORTIERE MADE OF SHELLS.

A lady who spends her summers at the seaside has collected about a bushel, more or less, of small, almost flat, thin yellow shells, which abound at so many points on the coast. With these she this year fashioned a portiere that is novel and pretty beyond description. Each shell is pierced with a hot wire, and then strung on a delicate wire, so that the narrow end of one is next to the wide end on the other. A number of strings were made in this way long enough to reach from the floor to the curtain pole, where they were securely fastened to a strip of plantation cloth of the same shade as the shells. Through the fretwork above this curtain is draped a length of sea green India silk, falling half way to the floor on the right side. A less ambitious woman has made a curious scarf by sewing these shells in artistic confusion on either end of a length of Nile green silk, putting here and there among them bits of golden brown seaweed. A fringe is made for each end by stringing silk instead of wire.

#### HOW TO MAKE TEA.

Grocers, tell your customers how to make tea; not one in a hundred knows how. The Chinese do it this way:

They pour boiling water into a cup and turn some tea into it, and when the leaves sink to the bottom, which happens in a few seconds, they pour the water off and drink it. We, on the contrary, let the tea "stand" sometimes, even in the drawing room, while in the servants' hall it is allowed regularly to stew on the hob until a brown decoction of equal strength and bitterness is ready to be served to the detriment of the nerves of all who drink it on account of the tannin squeezed, so to speak, out of the stewed tea-leaves. Now, the remedy for this is very easy, and consists in never allowing tea, when made, to stand for more than three minutes at most, or, better still, to have it made in one teapot and poured off into another.

A GOOD CHUTNEY.—Two pounds of raisins, one pound of dates, two pounds of apples, one pound moist sugar, a quarter of a pound shallots, two ounces of chillies; common salt, four ounces; revived ginger, two ounces; garlic, a quarter of an ounce; mustard seed; currie powder, two ounces; dilute acetic acid, two pints. Chop the raisins, dates and apples (after peeling and coring), mince the chillies very fine, and cut the

ginger, garlic, and shallots into very thin slices. Place the whole of the ingredients in an enameled stew pan, and bring to a boiling point; then simmer gently for from four to six hours, and place in suitable jars or bottles, and well cork or tie down. The ordinary root ginger may be revived or softened by pouring over it sufficient boiling water to cover it, and allowing it to soak for twenty-four hours, when, after the ginger is sliced, water and ginger may be added to the mass.

CAMPHORATED OIL OR SIMPLE CAMPHORATED LINIMENT, so much in request in every household, is made by dissolving one ounce of camphor in four fluid ounces of good olive oil. Place the oil in a pipkin or gallipot. Shave the camphor and place in the oil, tie down securely with two or three thicknesses of paper, and place the jar in a warm place, not too hot, but just sufficient to keep the oil warm. The camphor will be dissolved in the course of a few hours, and is then ready for use. Keep in a well-corked bottle.

TO CLEAN BRITANNIA METAL.—Half a pound of prepared chalk, two fluid ounces of sweet oil (olive), one ounce of soft soap, half an ounce of yellow soap. Dissolve the soaps in warm water, as small a quantity as possible, say two or three fluid ounces, and add the oil to this solution, and well shake together in a bottle. With this mixture triturate the prepared chalk to a smooth emulsion, and lastly add one fluid ounce of spirits of wine; the whole should be of the consistency of cream when completed, or, if not, add a little more water, and bottle for after use. Apply the above with a sponge or soft flannel, wipe off with soft linen rags, and well polish with a chamois leather polish.

PRESERVING TOMATOES WHOLE.—Gather the tomatoes in dry weather, and when perfectly ripe, selecting only those that are quite sound. Pack the fruit lightly in stone jars, and entirely cover with the following solution: Water, one quart; good vinegar, one quart; cloves, half an ounce; salt, four ounces; brown sugar, one ounce. Bung down or tie over securely with bladder, for after use. In withdrawing from stock be sure to securely re-cover.

A GOOD CLEANING SOAP.—Ordinary bar soap, one pound; washing soda, in powder, half a pound; powdered pumice one pound; rain-water, one pint; essential oil, such as common lavender, verbenia, cassia, etc., sufficient to perfume. Slice the soap, and dissolve over a water bath in the rain water; add the soda and dissolve, stir in the pumice, and when nearly cold add the essential oil; when quite cold cut into slices of a suitable size.

WASHING LIQUOR.—The following is a good laundry preparation, and is sold in some quarters at a fancy price per gallon: Soda ash, in fine powder, four ounces; oil of citronella, one fluid ounce; paraffin oil, one gallon. Shake the citronella with the paraffin oil, then add the soda ash and dissolve; add two tablespoonfuls of this mixture, and one pound of soap to each boilerful of clothes.

TO CLEAN OIL PAINTINGS.—This may be effected in a nominal degree by dividing a sound white potato, having previously removed the skin, and applying the flat cut side to the surface of the picture and gently rubbing it. As the soap-like froth accumulates use a very soft piece of sponge and a little tepid water to remove it. The superfluous moisture will be readily absorbed by the

careful application of a selected piece of chamois leather.

HAT REVIVER.—Without giving a greasy appearance to a silk hat, the following will be found to renew the color and gloss without deteriorating the foundation of the hat. Take of tannin, one ounce; dried and powdered sulphate of iron, one ounce. Well mix, and add one teaspoonful to a half tea-saucerful of warm water, stir till dissolved, and sponge over the hat where necessary.

Wise housekeepers always save the bread crumbs. Lazarus certainly would not starve with, for his portion, the crumbs that are left from the bread-cutting of large families, where especially with people of moderate means, the members lean heavily on the "staff of life."

## MEDICAL.

### THE TREATMENT OF MALARIA BY MEANS OF POTASSIUM OF SODIUM NITRATE.

Dr. Peter Buro, in *Deutsche Med. Zeitung*, having experimented with the above salts in the treatment of malaria, reports the following:

1. The nitrate of potassium and the nitrate of sodium are specific remedies in typical malarial intermittent, whether it assumes the quotidian, tertian or quartan form.
2. Both salts manifest an exact action, but the sodium salt has the advantage of being free from the slightly toxic effect of potassium.
3. The usual single dose for adults is from 15 to 24 grains, which may be given in either the febrile or afebrile stage.
4. A decided advantage of these salts is that they exert no ill effect upon the digestive organs or nervous system, nor do they produce any untoward results.

### CREOLIN A MIXTURE OF CRUDE CARBOLIC ACID AND RESIN SOAP.

From a trade circular issued by Dr. F. Raschig, a competent chemist and manufacturer, we learn that,

"Creolin is nothing more than a mixture of about 2 parts crude 20 per cent carbolic acid and 1 part resin soap and consequently contains about 10 to 15 per cent of crude carbolic acid—to which solely it owes its disinfectant power."

This positive and trustworthy statement is made to counter the specious claim by the creolin manufacturers that their product is "made from coal-tar creosote free from all carbolic acid." Dr. Raschig lends emphasis to the exposure by pointing out that "coal-tar creosote and 20 per cent crude carbolic acid are identical"—thus "hoisting by their own petards" his opponents in the argument.

Creolin has done good service, but is now excelled by lysol.—*Notes on New Remedies.*

### TO COMFORT AN INVALID.

Remember, that although starch has its uses, there are invalids who cannot endure the rustle of apron or skirts.

Then forget to say, "Oh, this is a gloomy day."

Don't say, "It will be many a day before you will wear these boots again."

Never seem so absorbed in book or paper as to give the impression that your patient is only of secondary importance.



Enter the room quietly, but not stealthily. As though you belonged there, never peering slyly through a half-open door.

Let a few cool, fresh blossoms that are not overpoweringly sweet, touch the feverish face. They seem to bring rest with them.

Allude not to personal appearance, especially to say, "You look like a ghost," or, "I know by your looks that you are worse."

## INFLUENCE OF BORAX AND BORACIC ACID ON DIGESTION.

BY R. H. CHITTENDEN, PH.D., PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

[Condensed from *Dietetic Gazette*.]

### II.—GASTRIC DIGESTION.

The influence of borax and boracic acid on the proteolytic action of pepsin-hydrochloric acid was determined by ascertaining the amount of a given proteid digested or dissolved in a stated time by a definite volume of a standard, artificial gastric juice, in the presence of varying amounts of the two substances. In these experiments, the action of boracic acid has been emphasized, since it is probable that whenever borax is taken into the stomach it is more or less decomposed by the acid of the gastric juice with liberation of the boracic acid, the sodium of the borax combining with the hydrochloric acid of the gastric secretion to form the comparatively inert sodium chloride. Hence, such action as borax may have on the proteid-digesting power of gastric juice is probably due in great part to the contained boracic acid.

In the first series of experiments, the albuminous matter digested was coagulated egg-albumen, prepared by pouring a quantity of white of egg into boiling water slightly acidified with acetic acid.

In a second series of experiments a somewhat weaker gastric juice was employed, but containing the same percentage of hydrochloric acid (0.2 per cent) while the proteid used was washed blood-fibrin, purified by boiling with water, alcohol and ether, and dried at 110 deg. C.

While these two series of experiments differ from each other in the strength or activity of the gastric juice employed, as also in the character of the proteid digested, the results agree in showing that small amounts of boracic acid tend to increase the proteolytic or digestive action of an artificial gastric juice.

From this the inference is plain that, so far as the purely chemical process of gastric digestion is concerned, the presence of moderate amounts of boracic acid not only will not impede the proteid-digesting power of the secretion, but, on the contrary, will actually increase the proteolytic action of the ferment. In the more vigorous digestion of the coagulated egg-albumen, this increased activity of the ferment is noticeable in the presence of even 1.0 per cent of boracic acid, while the presence of even 2.5 per cent of the acid fails to reduce the proteolytic action below that of the control experiment. With the weaker fibrin digestion, the increased ferment action in the presence of boracic acid is less pronounced, although still manifest, and the two series of experiments taken together well illustrate the point often noticed in digestion experiments of this kind, that given percentages of an agent will produce a given quantitative result only under definite conditions. Variations in the conditions will modify to a certain extent the exact character of the result, and hence such quantitative data as the above are not to be looked on as representing accurately the relative action of the given percentages of boracic acid

under all conditions, but simply as an expression of the general fact that boracic acid in moderate amounts tends to increase, rather than decrease, the ordinary proteolytic action of gastric juice. Large amounts of boracic acid (5—6 per cent), as might naturally be expected, tend to check gastric digestion, but even with these large quantities the retardation is not very pronounced.

Borax, like boracic acid, when present in very small amounts, appears to increase rather than retard the digestive action of pepsin-hydrochloric acid. This increase of proteolytic action is, however, more quickly followed by retardation as the percentage of borax is increased, than with boracic acid. But this is presumably not due to any direct inhibitory action of borax, but rather to a partial neutralization of the hydrochloric acid of the gastric juice by the alkaline-reacting salt. The liberation of boracic acid which accompanies this reaction cannot in itself cause any retardation of gastric digestion, since, as we have seen, boracic acid tends to accelerate the digestive action of pepsin-hydrochloric acid. But, in a beaker experiment, where the hydrochloric acid is limited to the amount originally present, any withdrawal of the hydrochloric acid from its combination with pepsin must indirectly affect the digestive action of the mixture, since pepsin combined with boracic acid alone has little digestive power. Presumably, therefore, in the healthy stomach, where the secretion of hydrochloric acid is continually going on during the digestive process, this indirect action of borax would be far less noticeable, since any hydrochloric acid used up in the above reaction would be quickly supplied by the secreting cells, and the liberated boracic acid would doubtless exert the same accelerating action on the pepsin-hydrochloric acid seen in our experiments. Hence, it seems reasonable to assume that such quantities of borax or boracic acid as would ordinarily be ingested, either for therapeutical purposes or otherwise, would not have any pronounced retarding effect upon the purely chemical process of gastric digestion.

[To be continued.]

## ADULTERATION.

### LAWS AGAINST ADULTERATION.

The past year or two, especially during recent months, numerous pure food and drug bills, etc., have been proposed for national or State enactment. Most or all of them have failed of passage. This defeat is due, in large measure, to the antagonism of manufacturers and wholesalers in the line of products affected. That they are thus antagonistic to the measures does not necessarily mean that they are from choice dishonest or desirous of dealing in inferior goods, but because they believe they must compete with that very considerable class of manufacturers who have no scruples on that score. Then, too, it cannot be gainsaid that there is a demand from the people for a cheap line, and to meet their views on price, deterioration of quality is essential. There would seem little use in attempting State legislation, but a national enactment rigorously enforced is feasible and advisable.

### ARTIFICIAL VANILLIN.

So many "flavors" are innocent of the fruits and flowers from which they are presumably derived, that one is not surprised to hear that the product of the vanilla pod can now be made in a chemical laboratory. Vanillin is prepared from

eugenol (the chief constituent of oil of cloves) by converting the latter into iso-eugenol and then introducing an organic residue into the molecule, which can again be removed after the oxidation of the iso-eugenol derivative to vanillin. An improvement on this plan has recently been introduced by C. F. Boehringer and Sohne of Waldorf, near Mannheim in Germany. They first convert the eugenol into the bensyl ether by treatment with bensyl chloride in alcoholic solution in the presence of caustic alkali. This ether is then boiled with alcoholic potash for sixteen to twenty-four hours, and oxidized by means of a sulphuric acid solution of sodium chromate to vanillin bensyl ether. From this last substance the vanillin is readily obtained, by treatment with fuming hydrochloric acid for twenty-four hours in the cold.

Apropos of sophistications, the British consul at Cadiz states that he and a friend, visiting one of the native sherry cellars there, were given two samples of wine to drink, which seemed to be almost identical; and were told that one was a natural product, and very costly (\$250, equal to £50, a bottle), while the other was a manufactured product, the market price of which was only a few cents a bottle. In making the imitation, the natural product is first analyzed, and the chemist, ascertaining the exact nature of its constituent parts, is able to combine them, and thus nearly reproduce the original compound.

TEST FOR ARTIFICIAL HONEY.—The following test is said to distinguish artificial from natural honey: Mix in a closed tube two drachms of the honey with six drachms of alcohol, and shake well. After standing a while, artificial honey will deposit a thick, white sediment (starch), which will not be the case with the genuine.

## INVENTIONS, SCIENCE, ETC.

### THE ORIGIN OF THE EAR.

When the fish came ashore, its water breathing apparatus was no longer of any use to it. At first it had to keep it on, for it took a long time to perfect the air-breathing apparatus which was to replace it. But when this was ready the problem was, what to do with the earlier organ? Nature is exceedingly economical, and could not throw all this mechanism away. In fact Nature almost never parts with any structure she has once made. What she does is to change it into something else. Conversely, Nature seldom makes anything new; her method of creation is to adapt something old. Now when Nature started out to manufacture ears, she made them out of the old breathing apparatus. She saw that if water could pass through a hole in the neck, sound could pass likewise, and she set to work upon the highest up of the five gill-slits and slowly elaborated it into a hearing organ.

There never had been an external ear in the world till this was done, or any good ear at all. Creatures which live in water do not seem to use hearing much, and the sound-waves in fishes are simply conveyed through the walls of the head to the internal ear without any definite mechanism. But as soon as land-life began, owing to the changed medium through which sound-waves must now be propagated, a more delicate instrument was required. And hence one of the first things attended to was the construction and improvement of the ear.—Prof. Henry Drummond, in *McClure's Magazine* for June.



## THE FISH THAT SWALLOWED JONAH.

[For the AMERICAN ANALYST.]

In the last number of your valuable paper I noticed a clipping from the Boston *Democrat* headed "The Fish That Swallowed Jonah," the reading of which revived the explanation of this scrap of Bible history. In looking for something in the library at Washington, D. C., among a rare collection of books selected for Howard University, where the writer at the time was librarian, my attention was attracted to an old edition of Augustin Calmet fiction, leaves uncut and sheets untrimmed. It furnished a novel explanation of the Jonah history, to say the least; one that his later editions say nothing about. After going on to show that big fish could not be a whale for two reasons: First, whales are not found in the Mediterranean Sea. Second, the gullet of a whale is not large enough to take in a whole man; while the mouth is enormous the gullet is small. But the sharks that inhabit that sea has a throat wide enough to take in substances whole larger than a man. That the great fish which swallowed the run-a-way from duty was doubtless a large shark. Once swallowed he made a rush with his prisoner up the Mediterranean, past where he had shipped for through the Straits of Gibraltar, then heading south of the African coast, rounding Cape of Good Hope, then turning north rushing him along through Mozambique Channel on north to the Persian Gulf, up that gulf to the river Euphrates, and up the Euphrates till the Tigris branch is reached, then up the Tigris to the city of Nineveh where the fleeing prophet owed a duty. Once there he discharged his prisoner, having given him a free ride on the fast line which did not necessitate stops by the way for wood or water. These sharks always move on double quick time. I see nothing incredible in the view of the writer in his old edition.

O. B. NICHOLS.

Mission Hill, So. Dak., July 6, 1893.

## THE LOST TAIL.

When one passes from the head to the other extremity of the human body one comes upon a somewhat unexpected but very pronounced characteristic—the relic of the tail, and not only of the tail, but of muscles for wagging it. Everyone who first sees a human skeleton is amazed at this discovery. At the end of the vertebral column, curving faintly outward in suggestive fashion, are three, four and occasionally five vertebrae forming the coccyx, a true rudimentary tail. In the adult this is always concealed beneath the skin, but in the embryo, both in man and ape; at an early stage it is much longer than the limbs. What is decisive as to its true nature, however, is that even in the embryo of man the muscles for wagging it are still found. In the grown-up human being these muscles are represented by bands of fibrous tissue, but cases are known where the actual muscles persist through life. That a distinct external tail should not be still found in man may seem disappointing to the evolutionist. But the want of a tail argues more for evolution than its presence would have done. It would have been contrary to the theory of descent had he possessed a longer tail. For all the anthropoids most allied to man have also long since parted with theirs.—*Professor Henry Drummond, in McClure's Magazine for June.*

TO PREVENT PATENT LEATHER cracking, always warm the leather before putting on the boot or shoe.

## HYGIENIC.

## IMPURITIES IN ICE.

A good many of the bacteria which are found in all natural surface waters are expelled or killed when the water freezes, but as many as ten per cent, and often more, may remain alive. A large number of studies on this subject have shown that the bubbly and snowy ice is apt to contain many more bacteria than the clear ice does. These bacteria in ice have, as a rule, no influence whatever upon the health of the ice consumer, if the ice has been formed on bodies of water which are clear and pure. But ice which is formed on sewage-polluted or otherwise filthy water may contain disease-producing bacteria, and hence be very dangerous for domestic uses.

It has thus come to be firmly established as a primary principle in sanitary science that sewage-polluted water should not be used for domestic purposes, either in its natural state or in its condition as ice. No water which is unfit to drink as water is fit to use for a similar purpose as ice. Its coldness may benumb the sense of taste, so that no warning of its nature comes to the consumer. Its intrinsic clearness and beauty may put him off his guard, but all ice cut from sewage-polluted waters is dangerous, and should by law be kept from the domestic market.

Ice manufactured from distilled water should, it would seem, be germ free. In fact, however, it is extremely difficult to prepare absolutely germ-free water on the large scale, and almost impossible to keep it so if once prepared, because every exposure to the air, or contact with utensils in common use, brings to it varying and often large numbers of germs which can live and grow in the water. But these small numbers of common bacteria are not of the slightest importance to the salubrity of the water.

Everyone should understand that of all the myriads of bacteria about us in earth and air and water, the great majority are harmless. With very few exceptions, the bacteria which can do us harm are those, and those alone, which come from the bodies of men and animals afflicted with disease. So far as water is concerned—and the same applies to ice—it is only sewage pollution or stagnant filth which we have to fear and shun. Good, pure, uncontaminated water, and ice made from such water either by nature or by man, are entirely wholesome, and they are not made more wholesome by distillation or other purifying procedure—they are not more wholesome when germ free.

In point of fact, most of the artificial ice which the writer has examined—and there have been many and abundant samples from various sources collected, and for a period of many months—do contain bacteria in varying numbers. The preliminary distillation, if carefully done, destroys any disease-producing germ forms which might be present in the water used. But a certain number of the more hardy harmless forms may be carried bodily with the steam into the condensers.

In most of the ice manufactories the distilled water is filtered through charcoal before it is run into the freezing cans for the purpose of removing certain organic compounds which have come into the process of distillation. But these charcoal beds afford breeding places for such germs as may have escaped the ordeal of the heat. The writer has repeatedly found that while the distilled water, before passing on to the filter beds, was very nearly germ free, the number was increased a thousandfold on leaving them.

So far as the salubrity of the natural as com-

pared with the artificial ice is concerned, we may rest assured that, as regards bacteria, one is just as wholesome as the other, provided the water used is pure. If the water is impure from sewage or other unwholesome thing, then the natural ice is never fit for domestic use. If water is impure, the processes of artificial ice-making, if carefully performed, are capable of furnishing even from it a product which is harmless and wholesome, whether it be absolutely germ free or not; for absolute freedom from germs—if these are not disease-producing forms—is neither necessary nor especially desirable. It is not bacteria, but disease-producing bacteria, which make of practical significance the invisible flora of either water or ice.

Innumerable analyses have shown that water does not purge itself wholly in the act of freezing, as was formerly believed, from disease germs which may have come into it with human waste. This has been specifically and repeatedly shown to be true for that most dreaded and fatal sewage germ, the bacillus of typhoid fever.

The process of oxidation and sedimentation, which aforesaid was demonstrated by most exact chemical analyses to be capable of freezing water in lakes and running streams from organic compounds abundant in sewage, is still urged by belated scientists and frantic tradesmen here and there in justification of the use of ice cut on sewage-polluted waters.

Sedimentation does remove many harmful germs from sewage-polluted waters. Dilution does diminish the chances to incur disease for every consumer. Many individuals are, at favored times, practically invulnerable to the incursions of these tiny foes. But, after all, it is safe to say that in thickly inhabited regions sewage polluted water is not fit for men to drink without purification, no matter how fast and far the river runs, or how wide the lake into which the sewage drains. With the size of the lake and volume of the river, the chances of harm decrease, of course, but they stay chances still where none need to be. As our country becomes more thickly settled and our cities larger, the problems involved in pure water and ice supplies are becoming more and more urgent and difficult.

The manufacture of ice and its marketing at prices which in many regions easily compete with those of the natural product have simplified this phase of the water question in the most marked way. Other things being equal, whether the householder decides to use the natural or the artificial ice will depend much upon the climate of his home and the market price of the ice. The natural ice is just as good as the artificial when it comes from pure sources. It is claimed by some that the natural ice melts more slowly than the artificial, and is in this way, other things being equal, cheaper. But similar claims are made for the artificial ice. The writer has tested the relative rapidity of melting of the natural and artificial ice in New York under the greatest variety of conditions; in small pieces and in large, in the dark and in the light, in diffused light and in the sunshine, in hot places and in cool, and can find no absolute constant difference in the rapidity of melting. One seems to be just about as durable as the other.—*T. Mitchell Prudden in Harper's Magazine.*

## CLEANLINESS THE FIRST LAW OF HEALTH.

The following words of the late Dr. Richardson should be ever kept in mind: "Cleanliness covers the whole field of sanitary labor. Cleanliness, that is purity of air; cleanliness, that is purity of



water; cleanliness in and around the house; cleanliness of person; cleanliness of dress; cleanliness of food and feeding; cleanliness in work; cleanliness in habits of the individual man and woman; cleanliness of life and conversation; purity of life, temperance, all these are in man's power."

#### SOME REASONS FOR DAILY EXERCISE.

1. Any man who does not take time for exercise will probably have to make time to be ill.
2. Body and mind are both gifts, and for the proper use of them our Maker will hold us responsible.
3. Exercise gradually increases the physical powers and gives more strength to resist sickness.
4. Exercise will do for your body what intellectual training will do for your mind—educate and strengthen it.
5. Plato called a man lame because he exercised the mind while the body was allowed to suffer.
6. A sound body lies at the foundation of all that goes to make life a success. Exercise will help to give it.
7. Exercise will help a young man to lead a chaste life.
8. Varied, light and brisk exercise, next to sleep, will rest the tired brain better than anything else.
9. Metal will rust if not used, and the body will be come diseased if not exercised.
10. A man "too busy" to take care of his health is like a workman too busy to sharpen his tools.—*Glasgow Herald*.

#### HOW TO BREATHE PROPERLY.

Most people breathe properly, often more by accident or instinct than by design; but, on the other hand, hundreds of thousands do not breathe properly, while many thousands at this present moment are suffering from more or less severe affections of the lungs or throat, owing to a faulty mode of respiration—in other words, because they breathe through their mouth instead of their nostrils. The mouth has its own functions to perform in connection with eating, drinking and speaking; and the nostrils have theirs, viz., smelling and breathing. In summer time the error of respiring through the mouth is not so evident as in the winter season, when it is undoubtedly fraught with danger to the person who commits this mistake. If any one breathes through the natural channel, the nostrils, the air passing over the mucous membrane lining the various chambers of the nose become warmed to the temperature of the body before reaching the lungs; but if he takes in air between the lips and through the mouth, the cold air comes in contact with the delicate lining membranes of the throat and lungs, and gives rise to a local chill, frequently ending in inflammation. Many persons, without knowing the reason why they are benefited, wear respirators over their mouths in winter, if they happen to go out of doors. By doing this they diminish the amount of air which enters between the lips, and virtually compel themselves to breathe through the nostrils. But they could attain just the same result by keeping the lips closed, a habit which is easily acquired, and conduces to the proper and natural way of breathing. We believe that if people would only adopt this simple habit—in other words, if they would take for their rule in breathing, "shut your mouth!" there would be an immense diminution in two classes of affection, viz., those of the

lungs and throat, which count many thousands of victims in this country in the course of a single year. Man is the only animal which has acquired the pernicious and often fatal habit of breathing through the mouth. It commences in childhood, and becomes confirmed in adult life, often engendering consumption, chronic bronchitis, relaxed sore throat, or some other disease of the lungs or throat, which is set down usually to a different cause altogether. In concluding this short article, we venture to ask our readers to judge for themselves. When they step out in the morning into the fresh, but cold air, let them try the difference of feeling arising from the two modes of breathing—through the nostrils and between the lips. In the former case they will find that they can breathe easily and freely, yet with comfort, while the fresh air, warmed to the temperature of the body by its contact with the nasal mucous membrane, is agreeable to the lungs; in the other case, if they draw in a few inspirations between the parted lips, the cold air, rushing in direct to the lungs, creates a feeling of coldness and discomfort, and an attack of coughing often comes on.

**PURIFYING WATER CHEMICALLY.**—That permanganate of potash has a power of oxidizing is very well known and daily put to use in detecting and estimating the amount of organic matter contained in a sample of water. The process consists in letting fall drop by drop a certain solution of this salt into the water under examination, until the red color that is characteristic of the permanganate persists; we are then certain that the entire quantity of organic matter has been oxidized and destroyed.

Transporting into the domain of hygiene this process, which had heretofore been solely applied to chemistry, Catherine Schipiloff has deduced from it an ingenious means of purifying drinking water, which has been published at length in one of the last numbers of the *Revue Medicale de la Suisse Romande*, and although the number of processes of sterilizing water is now quite considerable, it can only be to our advantage to know of this new one, which is highly recommended, if only on account of the ease with which it can be applied.

With one kilogramme of permanganate of potash, costing on an average one franc, 20,000 liters of water can be purified—five centigrammes per liter.

### MISCELLANEOUS.

#### ORIGIN OF FAMILIAR TERMS.

"All My Eye."—All nonsense. Jack Tar once went into church where he heard the words "ah, mihi," often repeated. On speaking of the services afterward, Jack said he could not make much out of it, but it seemed to him very much like "all my eye."

"Grass Widow."—The word means grace—a widow by courtesy (French grace, Italian grassa).

"To Throw Dust in One's Eye."—To mislead. Mohammed escaped from his enemies by this means.

"Within an Ace."—An ace being the lowest numeral, he who wins within an ace wins within a single spot.

"Baker's Dozen."—Thirteen. When a heavy penalty was inflicted for short weight, bakers used to give an extra loaf to make sure of giving good weight.

"To Haul Over the Coals."—A method of tor-

ture used in ancient days by kings and barons, to get money from Jews. It now means to scold, to bring to task.

"Adam's Apple."—The protuberance in the forepart of a man's throat. So called from the superstition that a piece of the forbidden fruit which Adam ate stuck in his throat.

"Let the Cat Out of the Bag."—It was formerly a trick among the country folk to substitute a cat for a sucking pig and bring it in a bag to market. The inference may be easily drawn.

"Naked Truth."—A fable says that truth and falsehood went bathing. Falsehood came out first and dressed herself in Truth's garments. Truth, unwilling to don those of Falsehood, went naked.

"My Uncle."—A pawnbroker. This is a pun on the Latin word *uncus*, a hook. Pawnbrokers employed a hook to lift articles up a spout down which the money and the pawn ticket would be sent. Hence the term "up the spout."

#### A PERPETUAL MENTAL CALENDAR.

BY LYSANDER HILL.

1. A century begins with the year ending with 01 and ends with the year ending with 00. For brevity, let us call the latter "century year," and, when it is leap year, "century leap year."

2. The old style calendar (O. S.) began with the Cæsars and ended on Friday, October 5, 1582, by the adoption of the new style calendar (N. S.).

Old Style.—Every year divisible by 4 without remainder was leap year. Each century, therefore, contained 25 leap years, or, in other words, 36,526 days=5,217 weeks and 6 days. Hence, each century began 1 day earlier than its predecessor.

New Style.—The leap years are the same as in old style, except that "century years" are leap years only when divisible by 400 without remainder. A century ending with "century leap year," therefore, has 25 leap years, or 36,525 days=5,217 weeks and 6 days. All other centuries have 24 leap years, or 36,524 days=5,217 weeks and 5 days. Hence new style, every century immediately following a "century leap year," begins 1 day earlier than the preceding century, and every other century begins 2 days earlier than its predecessor.

3. A common year contains 365 days=52 weeks and 1 day. Leap year contains 366 days=52 weeks and 2 days. Hence the year immediately following leap year begins 2 days later than the preceding year, and every other year begins 1 day later than the preceding year.

4. The 1st, 8th, 15th, 22d, and 29th days of any month fall upon the same day of the week.

The above facts enable us to form four simple rules, by which the day of the week, of any date, can readily be found by a brief mental calculation. These rules enable us to find:

1. The day of the week on which the given century begins.

2. From this, the day on which the given year begins.

3. From this, the day on which the given date falls.

#### RULE 1.

To find the day on which any century (new style) begins:

Rule.—New style, all centuries begin on Monday, Saturday, Thursday, or Tuesday. The century immediately following any "century leap year" always begins Monday; the next century, Saturday; the next, Thursday; and the next, Tuesday. The days go backward as the centuries go forward. Thus, 1601 began on Monday,



1701 on Saturday, 1801 on Thursday; 1901 will begin on Tuesday, 2001 on Monday, 2101 on Saturday, and so on indefinitely. It is, therefore, very easy to find the first day of any century, new style.

#### RULE 2.

Having found the first day of any century, to find the first day of any given year therein:

Rule.—The first day of any century recurs in regular cycles of 28 years during the century; and it also recurs in 6, 17, and 23 years from the beginning of each cycle. Thus the years 1801, 1829, 1857, and 1885 (cycles) all began on Thursday, and any year occurring 6, 17, or 23 years after any one of these cycle years also begins on Thursday. This enables us readily to approximate any given year, and then run forward or back to it by the course suggested in remark 3.

Example.—What day of the week was January 1, 1893?

Ans.—By rule 1, January 1, 1801, was Thursday; by rule 2, January 1, 1885 (cycle year), and January 1, 1891 (6 years after cycle year), were also Thursday. From remark 3, we readily find that 1892 began on Friday, and 1893 (the year following leap year) began on Sunday.

#### RULE 3.

Knowing the first day of any year, to find the day of any date during that year.

Rule.—January and October begin on the same day of the week. May, one day later; August, two days later; February, March and November, three days later; June, four days later; September and December, five days later; and April and July six days later.

Memorize the following table:

0	1	2	3	4	5	6
Jan. Oct.	May	Aug.	Feb. March Nov.	June	Sept. Dec.	April July

NOTE.—In leap years all dates, after February 29, come one day later than indicated by this table.

Example.—July 4, 1893, comes on what day of week?

Ans.—January 1, 1893, was Sunday; July 1 will come six days later, viz., Saturday. Hence, July 4, 1893, will be Tuesday.

Example.—July 4, 1892, was on what day of the week?

Ans.—January 1, 1892, was Friday; July 1, 1892, would, therefore, have been Thursday, but it being leap year, and later than February 29, it came on Friday. Hence, July 4, 1892, was Monday.

General Example.—What day was September 24, 1843.

Ans.—By rule one, January 1, 1801, was Thursday; by rule second, January 1, 1846 (17 years in cycle 1829-1856), was also Thursday. Hence, by remark third, we find that January 1, 1845, was Wednesday; January 1, 1844 (leap year), was Monday, and January 1, 1843, Sunday.

Then, by rule third, September 1, 1843, was Friday; hence, September 22 was Friday, and September 24, 1843, was Sunday.

In the old style calendar, when we have found the first day of the century, we find the first day of the given year, and the day of the given date therein, by rules second and third, the same as in new style.

But those centuries being all of equal length, and each beginning one day earlier than its predecessor, we must memorize the day on which some one of them began, and then reckon from that—an easy operation—because the same day will recur every seventh century.

The last century, old style, began on Friday, January 1, 1501. Taking this (memorized) as the starting point, we readily find that—

January 1, 1401, was Saturday.

January 1, 1301, was Sunday.

January 1, 801, was Friday.

January 1, 101, was Friday.

January 1, 601 B. C., was Friday.

January 1, 1301 B. C., was Friday, etc.

Example.—October 12, 1492, was on what day of the week?

Ans.—January 1, 1401, was Saturday; hence, (by rule second) January 1, 1845 (cycle year), and January 1, 1491 (six years after cycle year), were Saturday; and January 1, 1492, was Sunday. January 1 being Sunday, October 1 would have been Sunday had it not been leap year—but was one day later, viz., Monday. October 8 was, therefore, Monday, and October 12, 1492, was Friday.

Rule third will be found very convenient in daily practice, as it enables any one, by simply remembering on what day the current year began to pass readily to any date during the year without the necessity of resorting to a printed calendar.—*Scientific American Supplement*.

### CURIOUS THINGS AT THE WORLD'S FAIR.

An ancient clock made in Spain in the fifteenth century, which still runs and plays eight tunes, is in the reproduced Convent of La Rabida, in the original of which Columbus found shelter.

A turquoise in the Mining building is from Los Cerrillos, N. M., where Montezuma found the chalchihuitl, which he esteemed more highly than gold.

New Jersey sends a mineral found nowhere else in the world. It is Franklinite, called for the philosopher.

The fly casters of Chicago have built on the edge of one of the World's Fair ponds a reproduction of Izaak Walton's fishing house on the Dove. The original still stands, two hundred years old. It was built by Charles Cotton to accommodate his friend Walton whenever the latter came down from the city to go fishing. Over the entrance of the reproduction are twisted together the initials of Walton and Cotton, just as in the original, and upon the panels of the wainscoting are copied the fishing scenes, even to the trout and grayling on the cupboard door.

The reception room in the Victoria House is an exact copy of the ball room at Landringham Palace.

Mount Vernon, the home of Washington, is reproduced faithfully by the State of Virginia. The old Washington family clock stands on the stairway, and "Ole Virginny" darkies loaf around the kitchen.

A piece of white silk five feet square, a large eagle in the center, with the streamer and "E Pluribus Unum" inscribed upon it, and with one claw grasping the shield of stars and stripes, while the other holds an olive branch, this is one of the first United States flags. It was made in 1776 and carried in the battle of Plattsburg. A Kansas man, Joseph Sholtz, of Olathe, sends it to the Fair.

Michigan shows in miniature a model of the greatest copper mine in the world.

Some of the old Spanish bells swing in the towers of the California building, which is a copy of one of the missions.

Florida has reproduced the oldest structure in the United States—Fort Marion, at St. Augustine, which was begun the year the Pilgrims landed at Plymouth Rock.

Idaho and North Carolina are the only States in which mica is found. "Mica Hall" of the Idaho building is lined with sheets of it almost as clear as glass.

In the Indiana building is a figure of an elephant chiseled out of stone at one of the State quarries.

There is a Creole kitchen with all the old time belongings in the Louisiana building.

The carriage owned by Daniel Webster is good for ten years' service, but that of President Polk, which stands near it, is in the condition of the one-horse shay after it had

Run a hundred years, to a day.

"The Pioneer," the first locomotive brought to Chicago, stands on a track in the Transportation building.

The original manuscript of the Declaration of Independence is in the Government building. It was brought from Washington in a steel chest on a special car.

In cotton and silk a life-size portrait of Emperor Francis Joseph of Austria has been produced on a power loom, the first successful application of the idea. It was accomplished by enlarging a photograph fifty-three times.

### THE NUREMBERG GINGERBREAD "LEBKUCHEN" INDUSTRY.

The Nuremberg gingerbread industry dates back for centuries, and is closely connected with the history of this ancient town. The praises of its gingerbread nuts, macaroons and other articles of confectionery were sung long years ago by the old German poet, Hans Sachs.

In former times bee cultivation was carried on to a very great extent in the vast forest which stretches for miles around the town, and the honey thus obtained formed one of the chief ingredients of the Nuremberg gingerbread, also called honey-cake and pepper-cake.

Originally all the bakers in the place made gingerbread, but in 1645 those who were engaged solely or more especially in the baking of the dainties decided to form themselves into a guild of "gingerbread bakers," the number of members in Nuremberg not to exceed twelve.

In course of time the reputation of this confectionery spread abroad, and the number of bakers, like the supply of honey from the Reichswald (as the forest was called), became inadequate to meet the demand.

Little by little the small bakeries grew into large establishments, honey was imported from America and the West Indies, and the modest production of former days has developed into a richly ornamented and exceedingly palatable article, whose renown has spread all over the globe. The increase in the industry during the last thirty years has been enormous.

The raw materials used in the manufacture of this delicacy are: Honey (for which, in the cheaper kinds, syrup is substituted); eggs, the yolk and the white—the latter being beaten to a froth by machinery—being both used; best wheaten flour; sweet and bitter almonds; sugar; candied lemon and orange peel, and all kinds of spices and dried fruit.

The first step in the manufacture is the preparation of the dough, the mixing and kneading being done almost exclusively by machinery driven by steam power. The dough is then stored away—many hundredweights at a time—for several months until it is in the proper condition for further treatment.

When this process is completed the dough is taken out of the store, cut into pieces and weighed



and handed over to another set of workers, who mould it into shape, smooth and ornament it by means of special appliances. The final stage of manufacture is the drying and baking, which is carried out by experienced men, who have ovens, cooking utensils, etc., with all the latest possible improvements.

The gingerbread is made in various qualities and in every conceivable shape, size and style. In the brown kind the most noticeable is the "king-cake," quite a superior article, full of almonds, spices and preserved fruits. Next comes the "extra fine," which is richly ornamented; then the different qualities called full almond, medium almond, and almond, in various sizes, shapes, and prices to suit the trade and pocket of the would-be purchaser.

The white gingerbread is also divided into numerous classes according to quality, size, and ornamentation. In addition to those there are the Baseler, the Thorner, and many other sorts. The manufacture of macaroons, spiced nuts, and similar small articles, forms a special branch of this industry.

At the present time there are in Nuremberg fifteen firms engaged in the gingerbread industry. Seven of these are in a large way of business and have special factories; the other firms make their wares in premises adjoining their shops.—*London Baker.*

#### THE DANGER FROM MATCHES.

A recent writer in one of our chemical journals raises the question whether the so-called "safety matches," which are supposed to ignite only on the boxes in which they are put up, are really as safe as they are supposed to be. As justification for his question, he cites the fact that in his office combustion took place in two packets which were allowed to fall to the floor in handling, the only

cause of the ignition being the concussion attending the fall. Further demonstration showed that the matches were not by any means as absolutely safe as might be supposed from the label upon the box. It was found possible to ignite them by sharp impact against each other, which was doubtless the cause of the phenomenon when the packages were dropped; and they could also be lighted when rubbed sharply upon hard, smooth surfaces, like a sheet of paper, a pane of glass, or the like. Yet chemical analysis showed that these matches were true to their formula, in that they contained no phosphorous. There was also a peculiarity noticed in that they were more susceptible to ignition when in an extremely dry state than when the atmosphere was damp, though not excessively so.

This experience gives the text for a little discussion of a danger so common and so imminent in every household, that no apology would seem necessary for referring to it with the purpose of uttering a word of caution, which may be repeated from member to member of the home circle. We wonder how our ancestors managed to get along at all before the invention of matches; they are so indispensably handy that we keep them in every room of the house, the "men folks" carry them in their pockets, leave them hanging in their "other clothes" in a dozen closets in all portions of the house; we have a handful resting within reach while we sleep, they are dropped here and there as we attempt to handle them; if it is light, and we readily see them, they are picked up, otherwise they are left till a more convenient season—which generally does not come, simply because they are forgotten, being "only a match"—we can get plenty more for a half-penny, and time is too valuable to be wasted over so insignificant a trifle.

Yet this "insignificant trifle" possesses the latent power to destroy the finest mansion, and

with it lives of sweetness and beauty which the world can poorly afford to spare. The cause of the conflagration may not always be revealed, for the fire demon frequently covers or destroys his tracks most effectually; but how often is it apparent that only a simple match—that insignificant trifle—could have wrought the ruin.

Perhaps the most dangerous of all the match species is the abomination known as the "parlor match." It is inexpressibly annoying in the disgusting trail of dirty stain which it leaves wherever a thoughtless person chances to ignite it; but that is not its greatest or most dangerous fault. Every match which happens to drop, anywhere, is a magazine of danger. Any friction, or pressure of a foot, no matter how lightly booted, will ignite the thing. A careless boy may lose one, in some thoughtless way; his sister's foot, in pressing it, may start a blaze which, communicating to her clothing, may burn her to death. A more rapidly passing person may leave behind the burning splinter, to communicate its flame to other material, and to end—where?

The moral is obvious; familiarity has bred contempt, and in the use of these dangerous little conveniences we have become extremely careless. It is time to turn over a new leaf. Keep matches in but a few places in the house or the office. Let those few be fire-proof receptacles, in which the matches could burn to ashes without endangering anything. Remember that combustion cannot go on without a supply of air, and for that reason, as well as to prevent accidental scattering, the match-boxes should always be kept covered.

Mrs. Bellefield (displaying a new gown)—How do you like it, dear?

Mr. Bellefield—It reminds me of a tranquil ghost.

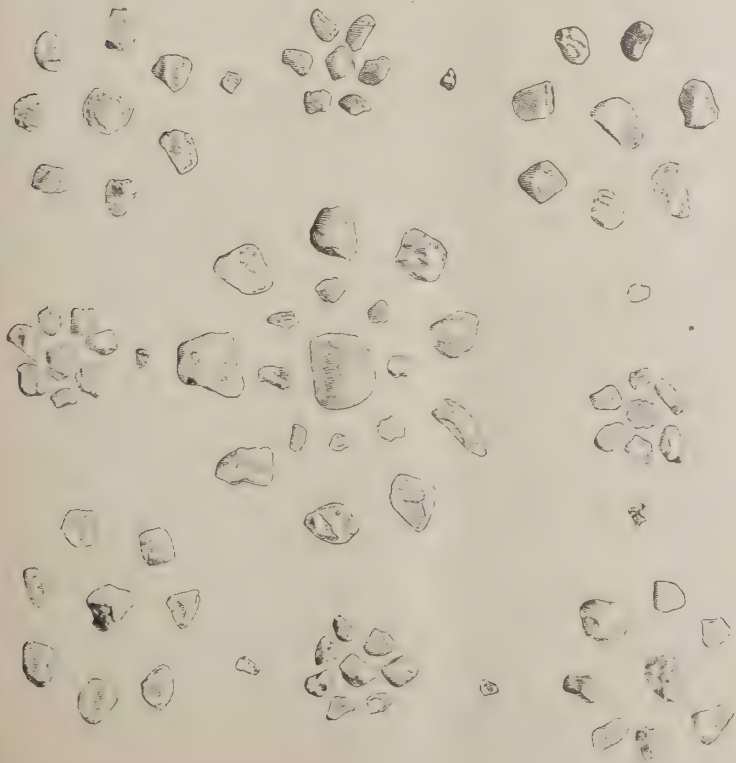
"How is that?"

"It is a quiet shade."

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



*The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.*

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## NO, YOU DON'T.

A correspondent, "B. W.", who professes to be a druggist in a small city within sixty-eight miles of New York, writes to the ANALYST a note of protest against our characterization of a certain standard medicinal preparation as superior to any other of its class and much better than can be made, even with the aid of its formula, by any person else than its manufacturers. He says: "I profess to make, in the little 7x9 laboratory back of my pharmacy, just as good a sarsaparilla compound as Ayer's or anybody else's." Doubtless, "B. W.", you do make such profession, but you do not make "as good a sarsaparilla," even though you "have the Ayer formula"—which, by the way, any doctor, or practically anybody can get by simply writing for it to the manufacturers. Primarily, you cannot possibly employ in making your sarsaparilla extract the cold process. To do that you would require large and costly mechanical conveniences. Your "7x9 laboratory" would float in the tank used for cold extraction in making Ayer's Compound Extract of Sarsaparilla and your entire business would hardly buy fuel to run the engine which stirs the agitator in that tank, continually for a week at a time. It is only by doing work upon so large a scale that this expensive process can be profitably employed. You probably buy your heat-produced extracts from some wholesale house and boil them together to make your messes, as some other more pretentious manufacturers do. But heat would entirely dissipate the excessively volatile principles of the vegetable drugs employed in Ayer's preparation

## Delicious Drink.

### Horsford's Acid Phosphate

with water and sugar only, makes a delicious, healthful and invigorating drink.

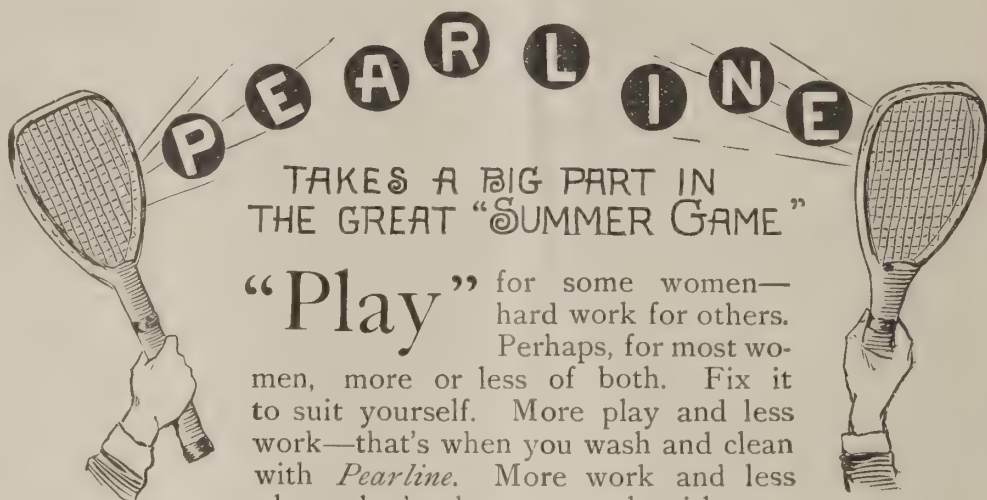
Allays the thirst, aids digestion, and relieves the lassitude so common in midsummer.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me. As a beverage it possesses charms beyond anything I know of in the form of medicine."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.



in the old back-breaking way.

Better work, too, with *Pearline*. Little or none of the rubbing that wears things out. It's something to think about, whether you do your own work, or have it done.

Easier, quicker, better, cheaper—and absolutely safe. Facts about *Pearline* known by millions of women.

## Beware

Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as *Pearline*." IT'S FALSE—*Pearline* is never peddled, and if your grocer sends you something in place of *Pearline*, do the honest thing—send it back. 305 JAMES PYLE, New York.

and render the resultant a product comparatively valueless—as yours no doubt is. This is especially the case with the Honduras sarsaparilla, which by the cold process yields a depurant extract of far higher value than any other variety of the plant, but affords a product not a whit better than they—practically worthless, that is to say—if exposed to heat. And the same is true, in slightly modified degree, of the stillingia, yellow-dock and mandrake extracts, each exhibiting far greater potency when extracted by the cold process than when made by heat. But even if you should rig up a barrel with windmill attachment and run a "pony" cold process in your "7x9 laboratory," you still could not successfully imitate the genuine Ayer's preparation, for you would not be able to obtain the crude material for two of the most important ingredients. The entire importation of Honduras sarsaparilla and practically all the yellow-dock annually produced is controlled and used by the firm of J. C. Ayer & Co. So "there you are." As far as the iodide of potassium and iron go, you can get all you want of them, by the pound or by the ounce, as your manufacture may require, and whatever good there is in your preparation is to be credited wholly to them. But, as you should know, their efficacy is very restricted when they are not compounded with the vegetable extracts employed in the Ayer preparation and, with the heat-produced substitutes you use, are very apt to be irritant and positively injurious in many cases. No, "B. W."; you cannot do it. Other manufacturers have tried, even with the backing of large capital, to rival Ayer's Compound Extract of Sarsaparilla and have failed, producing preparations only good to advertise and sell once to each purchaser. The Ayer compound has successfully stood the test of fifty years' exhaustive test and is recognized all the world over as the best alterative medicine pharmaceutical science has yet produced.

## BUSINESS NOTES.

STATE OF OHIO, CITY OF TOLEDO, } ss.  
LUCAS COUNTY.

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the city of Toledo, county and State aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this sixth day of December, A. D. 1886.

{ SEAL }

A. W. GLEASON,  
Notary Public.

Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.  
Sold by druggists, 75c.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Arpad Haraszthy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Sève of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.



## HOUSEHOLD NEWS.

*Household News*, the new magazine, edited by Mrs. S. T. Rorer, has just put in an appearance. It is refreshing both to see and to read.

Mrs. Rorer was for years editor of *Table Talk*, but severed her connection with it in January last. Her time will now be devoted exclusively to *Household News*, where she will enjoy a wider field of influence.

The articles are choice and wholesome, and fairly sparkle with the bright sayings of the talented writers. Mrs. Rorer, of course, leads off with one of her notable talks on cooking. She gives a menu for the hot days of July, and then enters thoroughly into the ways and means of preparing and serving the various dishes.

*Household News* is published in Philadelphia. One dollar a year, ten cents a number.

## WHAT A SAVING OF TEN CENTS A DAY WILL DO.

American enterprise has placed this possibility before you: The greatest educational work that the brains of Great Britain and America have produced—a complete and perfect library, in itself an education—the great REVISED ENCYCLOPEDIA BRITANNICA. This you can make your own for the outlay of that paltry ten cents a day which you did not know what to do with. It is the most compact magazine of universal knowledge extant. It contains everything worth knowing, made as attractive and interesting and clear as ingenuity can make it.

As a home library for self education, it is the best school in the world and takes up the least room. It is a friend to the whole family as well as yourself and never withholds its gifts at any time.

It is yours for ten cents a day and you will only have to save the ten cents a day for ninety days to secure this great library.

We do not ask you to pay us at once, for we send the entire twenty volumes with charges prepaid, on receipt of only one dollar, and you can remit the ten cents a day each month for a period of ninety days. We send you a dime savings bank with each set of books, wherein you can deposit the dime each day.

## THE EXPOSITION FLYER.

The daily papers have made the fact very generally known that the New York Central & Hudson River and the Lake Shore & Michigan Southern roads have put on a new train—the "Exposition Flyer"—between New York and Chicago, which makes the run westward in twenty hours, and eastward in twenty hours and fifteen minutes. On its first trip this train left New York on May 28 with a number of invited guests besides other regular passengers.

The train left New York at 3 p. m. on the date named, and made the run of 964 miles in twenty hours, or, to be exact, in two minutes less. There were nine scheduled stops, and several extra ones were made by reason of signals and other causes. The train consisted of one combination baggage, buffet and library car, with barber-shop and bath-room, approximate weight, 80,000 lbs.; three 16-section sleeping cars, approximate weight, 96,400 lbs. each, making the total weight of cars in train 369,200 lbs. The weight of the engines with their tenders loaded is 203,500 lbs., making the maximum total weight of train 572,700 lbs. The average weight of train would, of course, be less, as the tender would not always be

fully loaded. Besides these cars a dining car was taken on from Albany to Syracuse, and from Toledo to Chicago. Its weight was also about 80,000 lbs. making the maximum weight of the train 652,700 lbs.

The engines used on the Lake Shore Railroad were built by the Brooks Locomotive Works, and have 17x24-inch cylinders, 6-foot wheels and 52-inch boiler, and weigh with the tenders loaded 174,600 lbs. The Lake Shore engines, it will be seen, are not nearly so large as those used on the New York Central road. The difference in the size and weight of the two classes of engines has been the subject of a good deal of comment since these trains have been put on the road.

The speed on the Lake Shore road is 46.5 miles per hour, while on the New York Central it is 50.6. The engines on the latter road are built not only for hauling these fast trains, but must often be used for hauling trains of ten and twelve cars at somewhat slower speeds.

The cars composing the train were all new, and have the Gould vestibule and the Leonard platform and hydraulic buffer. This is the invention of Mr. Arthur G. Leonard, secretary to Mr. H. Walter Webb, third vice-president of the New York Central. The cars rode with remarkable steadiness, and the speed of the train did not impress those riding in it as being remarkably fast. The secret of the quick time is that it keeps at a regular rapid jog all the time, and the stops at stations are very short. On arriving at stations everything is in readiness, the inspectors begin their work at once, the engines are changed quickly, and there is little or no baggage to load and unload.

The officers of the New York Central assign much importance to heavy rails in fast running, believing that it is much safer and easier to maintain a higher speed on stiff rails than it is on those which have more or less sensible deflection. There seems no room to doubt the practicability of making the run from New York to Chicago in eighteen hours if the Lake Shore Line was railed with heavier rails.

The return trip on the Exposition Flyer, was as successful and as prompt as the westward trip. In both cases the train arrived at stations slightly ahead of time.

## FOR BRAIN FAG

Or as a nerve tonic use Horsford's Acid Phosphate. Dr. W. H. Fisher, Le Sueur, Minn., says: "I find it very serviceable in nervous debility, sexual weakness, brain fag, excessive use of tobacco, as a drink in fevers, and in some urinary troubles. It is a grand good remedy in all cases where I have used it."

Dr. S. L. Williams, Clarence, Iowa, says: "I have used it to grand effect in a case of neuralgic fever, and in uterine difficulties. Also, in cases where a general tonic was needed. For a nerve tonic I think it is the best I have ever used, and can recommend it most confidently."

"It's very hard for an old smoker to give up the habit all at once."

"I don't know about that. You remember old Tom Jinkinson?"

"Yes, he's been smoking all his life."

"Well, he has given it up."

"Did he taper off gradually?"

"No, he gave it up all at once. He was working in a stone quarry, and a spark from his pipe fell in a keg of giant powder."

Silver-tongued orators are now confined to the silver-mining States.

## HOW TO TIE A SHOE.

When I walk down Fifth avenue in the wake of a young woman in trim tailor made gown or dainty combination of lace and muslin, I hear the swish of strings and the tinkle of lines on the pavement rising and falling with each movement of her slim, arched foot, says a writer in the *New York Herald*.

As she glances uneasily and furtively about her and when she is quite sure no one is looking, quickly stoops and readjusts the offending tie, my manly heart is stirred with a desire to show her how she may make that tie more lasting than those of friendship or even matrimony. It was a very pretty lady who initiated me into the secret of this tie, warranted to hold.

The simple mystery is this: Proceed exactly as if you were about to tie an ordinary bow knot, but before you draw it up pass the right hand loop through the knot, give a steady and simultaneous pull on both loops, and you may tread the sands of time or the ocean beach all day, and waltz into the wee sma' hours of the next, and that shoe string will never trip you up. In untying be sure to pull the right hand line, and the string will readily unloosen, but if you pull the other you will find it as hard to unfasten as some hastily tied matrimonial knots.

Millet—Did you notice there are certain tones in Miss Thrum's voice that deeply move people?

Mallet—Yes, indeed, pretty nearly everyone in the room left as soon as she began to sing.

"A Word  
To the Wives  
Is Sufficient."

For Rendering  
Pastry  
Short or Friable

**COTTOLINE**

Is Better than Lard  
BECAUSE

It has none of its disagreeable  
and indigestible features.

Endorsed by leading food and  
cooking experts.

ASK YOUR GROCER FOR IT.

Made only by  
**N. K. FAIRBANK & CO.,**  
Chicago, St. Louis, Montreal, New York,  
Boston, Philadelphia, San Francisco.

Send three cents in stamps to N. K.  
Fairbank & Co., Chicago, for hand-  
some Cottolene Cook Book, contain-  
ing six hundred recipes, prepared by  
nine eminent authorities on cooking.



## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

The following answers by the editor of *Popular Science News* seem to be of such general interest that we quote them:

S. F. H., New York: A storm commences in the Gulf of Mexico and travels north up the Atlantic coast. When it reaches New York the wind blows from the northeast. Why is this so?

A.—The storms which travel up our coasts are cyclones or rotary storms, in which the currents of air revolve around a common center, like the water of a whirlpool. The general motion of the cyclone as a whole is, approximately, from the southwest to the northeast, but the winds of the cyclone seem to blow from all points of the compass, according to the position of the observer. The usual course of these cyclones is such that the part which passes over New York is that in which the winds blow between a northeasterly and southeasterly direction.

T. W. H., Boston: When it is Sunday here what day is it at the antipodes? Is there a point on the earth where the day begins?

A.—Time is usually reckoned from the meridian of Greenwich, near London. When it is Sunday noon at Greenwich, at the antipodes it is either the midnight between Saturday and Sunday or between Sunday and Monday, according as the observer has traveled west or east. To correct this discrepancy the one hundred and eightieth meridian, which crosses the Pacific ocean, is taken as the point where the day begins, and navigators sailing east arbitrarily drop a day from the log book when crossing this line, and add a day when sailing west.

L. C. C.: Is the green color on bank notes and postage stamps due to arsenic or any poisonous substance?

A.—The ink on a green postage stamp was analyzed by us some years ago, and found to be composed principally of chromic oxide, a perfectly harmless substance. It is most probable that this substance is still in use. The arsenic greens are not well adapted for printing fine engravings, and their color is very much inferior to those obtained from the metal chromium.

It's a strange paradox that fast colors are colors that will not run.

A married woman says her husband used to rave over her before marriage. Now he raves at her.

Whichever way the election goes, the cabinet makers will be busy night and day for some time to come.

Do not make an exhibition of your rudeness, my son. It is a foolish shopkeeper who places his poorest goods in his show window.

Bridget was somewhat astounded when she first saw celery served. She thought it odd that people should eat the stalks and throw away all the foliage.

Next to croquet there is nothing like politics to engender murder in one's heart and all uncharitableness in one's conversation.

"Education is an Ornament in Prosperity, a Refuge in Adversity."

## THE COST OF AN EDUCATION.



HUSBAND—"My dear, our boy Robert graduates from the public schools very soon, you know. Have you thought what he had best do then?"

WIFE—"Well John, I'd like ever so much to send him to college if you think we could afford it."

HUSBAND—"I'm afraid that is out of the question, my dear. Do you know it would cost at the very least \$800 a year for him at any good college?"

WIFE—"Goodness, as much as that? Of course we can't send him. But I do want to give him a good start in the world, and I don't think a public school education is enough to equip him for the battle of life."

HUSBAND—"No, it is not to-day, when education is so general. Now, I've been set a thinking by an advertisement I saw in our paper the other day and that is why I brought up the subject to-night. I was reading about the Revised Encyclopedia Britannica to-day, and its really a great thing. With these books in the house, Robert will have information upon every possible subject, and it is the most reliable information in the world. Whatever his natural bent is he can find proper development for it in this encyclopedia, whether its the law, mechanics, engineering, literature or any of the arts and sciences. Besides, there he will find the life stories of all the great men of the past and he will know of their efforts, their struggles and their successes, and he may have a better and more serious view of life. These books have in them all the instruction he can get in a college education. Honestly, our paper has given us a great opportunity. Now, my dear, what do you think of my scheme?"

WIFE—"Its just splendid John; but what will the books cost?"

HUSBAND—"Why, that's the most surprising thing of all. We can get them for only ten cents a day, just think of it. Here is the offer."

## ON RECEIPT OF ONE DOLLAR

we will forward to you, charges prepaid, the entire set of 20 volumes, the remaining \$9.00 to be paid at the rate of 10 cents a day (to be remitted monthly). A beautiful dime savings bank will be sent with the books, in which a dime may be deposited each day. This edition is printed from new, large type on a fine quality of paper, and is strongly bound in heavy manilla paper covers, which with proper care will last for years. Bear in mind that the entire 20 volumes are delivered to your address, with all charges paid to my part of the United States

This special offer is made only to the readers of the *AMERICAN ANALYST*, and will remain open for a limited time only.

Cut this out and send to *AMERICAN ANALYST*, 19 Park Place, New York.

## AMERICAN ANALYST:

Please deliver to me the entire set of 20 volumes of Revised Encyclopedia Britannica, as above described, together with your Dime Savings Bank, for which I enclose One Dollar, and further agree to remit 10 cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

Name .....

Post Office .....

County .....

State .....

THIS INCLUDES A PAID SUBSCRIPTION TO THE  
AMERICAN ANALYST FOR ONE YEAR.



Two lawyers on opposing sides seem to be ready to cut each other's throats, but when off duty they are as friendly as sister kittens. Lawyers, like the blades of a pair of shears, cut only what comes between.

He—Well, what have you there?

She—Two of your old letters, my dear.

He—Umph! What's the first one—that forty-pager?

She—One you sent me when I had a slight cold before we were married. This half-page is the one you wrote last winter when I was nearly dead with the grip. That's all, dear.

Young Wife—Before we were married, Clarence, you never smoked in my presence.

Young Husband—I know it, my dear, and you never wore curl-papers in mine.

Little Effie—Do you love me very much, mamma?

Mamma (a widow)—Yes, my darling.

Little Effie—Then, why don't you marry the man at the candy store?—*Vogue*.

Cholly (throwing away a half-smoked cigarette)—I wonder why the last half of a cigarette isn't fit to smoke?

The Major—Perhaps for the same reason that the first half isn't.

"Jimmins's wife has run away and left him. He says he never will forgive her."

"Neither will anyone else. She ought to have taken him along."

A bone of contention—The jawbone.

THE WAY TO DO IT.—Mrs. Fadd—Did you know that Mrs. Askin has started out as a dress reformer?

Mrs. Fodd—She'll never make her gowns fashionable.

Mrs. Fadd—Oh, yes, she will! She's going to charge twice as much for them as the old kind cost.

From recent investigations it has been found that the average speed of the transmission of earthquake shocks is very nearly 16,000 feet per second.

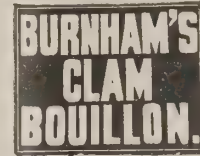
Three miles an hour is about the average speed of the gulf stream. At certain places, however, it attains a speed of fifty-one miles an hour, the extraordinary rapidity of the current giving the surface the appearance of a sheet of fire.

Sneak Thief—Nobody knows how I have been tempted, and nobody will give me credit for the good that is in me; all I have to say is, take me as I am.

Policeman (slipping on the darbies)—That's what I intend to do.

## FEED THE BABY

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AND

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There are thousands of people who would die before they would steal chickens, who are down-right robbers in other ways that are not so risky.

There's nothing like discipline, but it don't do a boy any good to make him hoe potatoes in a back garden while a brass band is passing the house.

The bald man's heart with joy may glow,

Heaven does not on him frown;

Before he leaves the scene below

He gets his shining crown.

"Ha, ha, ha!" roared Mr. Nupop, as he looked his baby in the eye. "What are you laughing at?" asked Mrs. Nupop. "At the bright things that boy would say if he could only talk," said Mr. Nupop.

"What are the wheels of commerce I hear so much about?" asked Mrs. Snaggs.

"Those underneath freight trains," replied her husband conclusively.

"Poets are born not made." A reasonable proposition. Nobody would be so foolish as to continue the manufacture of an article when the supply was already greater than the demand.

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He—O, I am all right, but what are they going to do about it?

THE COLOR LINE.—Young Mother—What do you think of the baby, Uncle Jackson?

Uncle Jackson—Lor' sakes, Mis' May! It's de putties' little baby—ter be a w'ite baby—ev'r I did see!

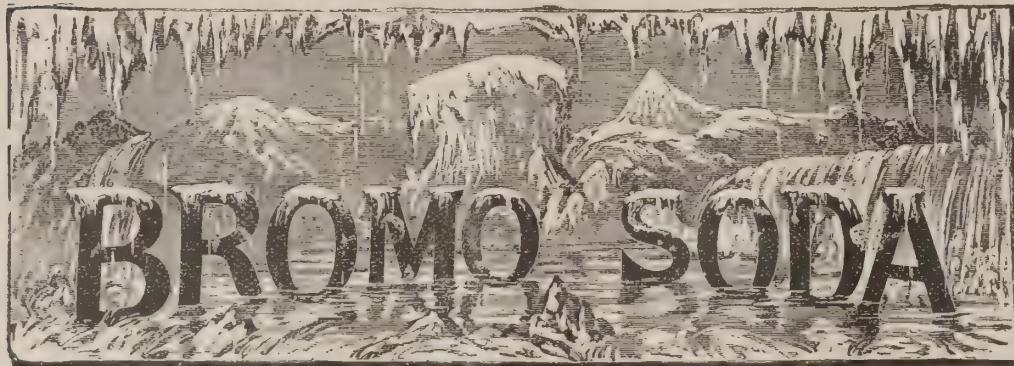
New Man (Signal Office)—Indications are for fair weather and northerly winds. Which flag shall I put out?

Old Man—Oh, any of 'em. Nobody knows the difference except sailors and it's too foggy for them to see.

FOR THE SPEEDY RELIEF OF

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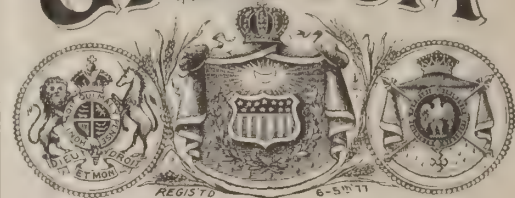
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## PATENTS

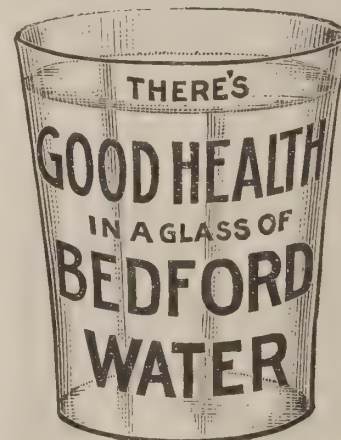
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place,

New York

AUGUST 1, 1893.

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### THANKS.

The AMERICAN ANALYST constantly takes up the cudgels in favor of pure food, and as a champion of correct labeling and honest dealing in food products and drugs, has been doing a good work in the community, and has served to expose many fraudulent concerns. In its last issue it attacks the merchants who sell cane sugar juice, doctored to give a flavoring, under the name of "Maple Sugar Jars," and defend their position on the ground that it is a mere trade name, and that the cane sugar is perfectly harmless. So is barytes perfectly harmless when ground up with linseed oil, but it is useless as a paint product, and is not the white lead or color that the labels so often claim it to be. The AMERICAN ANALYST is deserving the support of those reputable manufacturers who make honest food products and with whom the label is something more than a mere trade name.—*Painting and Decorating.*

### DEATH-BED SCENES.

We have several times spoken of some of the silly stories related of death-bed scenes and have conclusively proven that such occurrences are utterly impossible. The *National Druggist* corroborates our views in the following article, which is well worthy of a thoughtful perusal:

Recently, while waiting for a train at a little junction in West Missouri, the writer picked up a volume of sermons by a distinguished "divine," more noted for his coarseness and vulgarity and for preaching actual "hell-fire and damnation" than for piety, and while listlessly turning the leaves chanced upon a part of a discourse in which the preacher depicted dreadful death-bed scenes. One after another were given, each succeeding one more horrible and harrowing in its details than its predecessor. We are not going to quote any of them, but having in the course of a somewhat extended practice witnessed the passing away of many a mortal under almost every conceivable circumstances, and never having seen anything of the sort described, we were naturally incredulous concerning the truth of the stories narrated with so much unction by the divine. A few hours later we were thrown by chance with an old army surgeon, a man who had spent over thirty-five years of his life in active and almost constant service. Referring to the sermon, and to our own experience, we asked him if he had ever witnessed anything of the sort.

"Never," said he, "and in my time I have seen hundreds, if not thousands, of men and women meet death in almost every conceivable way—on the field of battle, on the scaffold, before a firing platoon (military execution), on the field of honor, in hospitals, tortured with wounds and wasted with fever; cut off suddenly by the assassin's knife or desperado's bullet; torn up by machinery—I have seen men and women dying by inches with cancer or consumption; in short, I have seen death in almost every shape, but I have never seen it in the horrible form presented by that man and his kind—the Sam Joneses, Sam Small's, Talmages, 'Boy Preachers,' and all the lurid delineators of hell-fire and damnation."

It is the experience of the writer, and we believe that it will be supported by the experiences of all physicians who have had opportunities for observing the behavior of the dying, that exactly the opposite condition of mind from that depicted by the clergy exists. The nearer that a mortal approaches to death the less he cares for life, and we believe that this is the normal and natural exit from life under all circumstances, except where death is caused by violence (scalding, burning to death, etc.). Even in these cases unconsciousness usually supervenes before the vital spark is extinct. Life appears sweet and desirable when we are well, but when mortal or serious disease seizes upon us, a mental legarthy sets in, and we regard the approach of final solution if not with satisfaction, at least with indifference. This has been the personal experience of the writer, and of others with whom he has conversed, who after lingering in the shadow of the

wings of death have returned to the land of the living. There was no fear, no inquietude about the future, no regrets for the past.

There should be some means devised by law to restrain the sensationalism of such men as Harrison, the Boy Preacher, ("Bugg's boy"—about forty-five years old), whose utterances recently at a prayer meeting in a Missouri town drove an estimable but weak and nervous young woman to stark, raving madness. The caliber, as well as the spirit of the man, was illustrated by one of his utterances: "All that wish to be prayed for stand up. Those that don't stand up ought to go to hell, and I hope they will go there!" Such, at least, is the telegraphic account of his remarks.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### CRUST FOR MEAT PIES.

One quart flour; three teaspoonfuls lard; two and one-half cups milk; one teaspoonful of soda wet with hot water, and stirred into the milk; two tablespoonfuls cream-tartar sifted into the dry flour; one tablespoonful salt. Work up very lightly and quickly, and do not get too stiff.

#### MUTTON OR LAMB RECHAUFFE.

Cut some slices of cold underdone mutton or lamb; put them in a frying-pan with enough gravy or broth to cover them. Or, if you have neither of them, make a gravy of butter, warm water and catsup. Heat to boiling, and stir in pepper and a great spoonful of currant jelly. Send to table in a chafing dish, with the gravy poured about the meat.

#### GLAZED HAM.

Brush the ham—a cold-boiled one, from which the skin has been taken—well, all over with beaten egg. To a cup of powdered cracker allow enough rich milk or cream to make into a thick paste, salt, and work in a teaspoonful of melted butter. Spread this evenly a quarter of an inch thick over the ham, and set to brown in a moderate oven.

#### ASPARAGUS SAUCE.

A dozen heads of asparagus; two teacupfuls drawn butter; two eggs; the juice of half a lemon; salt and white pepper. Boil the tender heads in a very little salted water. Drain and chop them. Have ready a pint of drawn butter, with two raw eggs beaten into it; add the asparagus, and season, squeezing in the lemon juice last. The butter must be hot, but do not cook after putting in the asparagus heads. This accompanies boiled fowls, stewed fillet of veal, or boiled mutton.

#### CABBAGE SALAD, OR COLD SLAW.

One head of fine white cabbage, minced fine; three hard-boiled eggs; two tablespoonfuls salad oil; two teaspoonfuls white sugar; one teaspoon-



ful salt; one teaspoonful pepper; one teaspoonful made mustard; one teacupful vinegar. Mix and pour upon the chopped cabbage.

#### POTATOES A LA CREME.

Put into a saucepan three tablespoonfuls butter, a small handful of parsley chopped small, salt and pepper to taste. Stir up well until hot, add a small teacupful of cream or rich milk, thicken with two teaspoonfuls of flour, and stir until it boils. Chop some cold-boiled potatoes, put into the mixture, and boil up once before serving.

#### POTATO CROQUETTES.

Season cold mash potato with pepper, salt and nutmeg. Beat to a cream with a tablespoonful of melted butter to every cupful of potato. Bind with two or three beaten eggs, and add some minced parsley. Roll into oval balls, dip in beaten egg, then in bread-crumbs, and fry in hot lard or drippings. Pile in a pyramid upon a flat dish, and serve.

#### HOMINY CROQUETTES.

To a cupful of cold boiled hominy (small-grained) add a tablespoonful melted butter and stir hard, moistening, by degrees, with a cupful of milk beaten to a soft light paste. Put in a teaspoonful of white sugar, and lastly, a well-beaten egg. Roll into oval balls with floured hands, dip in beaten egg, then cracker-crumbs, and fry in hot lard. Very good!

#### RICE CROQUETTES.

Half a cup of rice; one pint milk; two tablespoonfuls sugar; three eggs; a little grated lemon peel; one tablespoonful melted butter; a salt-spoonful salt. Soak the rice three hours in warm water enough to cover it. Drain almost dry, and pour in the milk. Stew in a farina-kettle, or one saucepan set in another of hot water until the rice is very tender. Add the sugar, butter and salt, and simmer ten minutes. Whisk the eggs to a froth, and add cautiously, taking the saucepan from the fire while you whip them into the mixture. Return to the range or stove, and stir while they thicken, not allowing them to boil. Remove the saucepan, and add the grated lemon-peel; then turn out upon a well greased dish to cool. When cold and stiff, flour your hands and roll into oval or pear-shaped balls; dip in beaten egg, then in fine cracker-crumbs, and fry in nice lard.

#### COCOANUT CONES.

One pound powdered sugar; one-half pound grated cocoanut; whites of five eggs. Whip the eggs as for icing, adding the sugar as you go on, until it will stand alone, then beat in the cocoanut. Mould the mixture with your hands into small cones, and set these far enough apart not to touch one another upon buttered paper in a baking-pan. Bake in a very moderate oven.

#### ORANGE CAKE.

Two teacups of sugar; one-half cup of butter; three cups of flour, one cup sweet milk; three spoonfuls baking powder; three eggs; grated rind and juice of an orange. Cream for filling.—Whites of three eggs beaten very light; one cup of sugar, and the grated rind and part of the juice of an orange.

#### INFANTS' OR INVALIDS' FOOD.

The finest wheat flour is cooked in a closed cylindrical vessel, which is, however, provided with outlets for the escape of gases during the process. This vessel is surrounded by water, kept boiling for six or eight hours. When the food is properly cooked, it is rolled, pounded and

sifted, and to every pound of the flour one quarter of an ounce of bi-carbonate of soda and half an ounce of sugar are added.

The above, taken from a medical cotemporary, is very good so far as it goes, but the AMERICAN ANALYST would recommend its readers to save time and money by buying Imperial Granum at any drug store, because they will find it better, cheaper and in every way more advantageous than this or any other home-made infants' or invalids' foods.

#### HAMS.

Hams require very careful treatment in the kitchen, even when perfectly cured. The most important thing is to get a good maker's ham (we think Ferris the best). They should be neatly pared, and cooked by slow degrees; if boiled, they should only be allowed to just simmer. When hams are baked, it is best to cover them over with a paste of flour and water, when they are actually steamed in their own moisture. While on the subject of hams we may give a tasty recipe for roasting hams Virginia fashion:—Having soaked, scrubbed and pared, cover the bottom with a thick paste of flour and water, and lay it upside down in a baking pan, with about a pint of water. Allow half an hour to the pound, and baste several times, keeping hot water in the pan. Plunge for a minute in cold water when done, as this makes the removal of the skin easier. Cover thickly with cracker crumbs; brush over with beaten egg and set in the oven to brown. It can be eaten either hot or cold. In the old form a pint of Madeira was often used, being put in the pan about an hour before the ham was done, and basting, from this time, being frequent. When skinned it was set back and again basted with the wine before the cracker or breadcrumbs were put on it, being set to cool in a deep dish with the remains of the wine in the bottom.

#### AQUA AMMONIA.

This bottled family commodity has become a very important item in every well stocked store. It is equally a valuable adjunct to every well regulated household. Judiciously used, it saves time and strength in performing the daily avocations of home duties, and its use in the bath produces effects of health and comfort that makes it without a peer for comparison.

We have our Salvation Armies seeking the outcasts, and bringing the scum of humanity into a second-handed existence, where they partially restore the regenerated light and personality of the victims. Glancing among the mysterious accumulations of a junk bottle store, we are surprised to find the ammonia bottles that have been rescued by these "Bottle" Salvationists in such quantities. This is a good criterion for judging the quantities consumed.

The pungency of ammonia, and its power of summoning tears so profusely makes one cautious of smelling of a bottle, and we generally start back at a single whiff with a sort of that kind of regard where distance lends enchantment. Ammonia is supposed to be sold under the guarantee that it stands the commercial test of 16 deg., as indicated by a Baume hydrometer, when immersed in that liquid.

It may be of interest to note the results the writer obtained from a personal examination of twelve different manufacturers' product, taken from stock in various stores.

There are many conditions that make the same grades of ammonia smell stronger at times. The

warmer the bottle the stronger it seems to be, as when quite chilly it is not apt to have much of any odor. The size of the neck of the bottle makes some difference. A bottle partially full is apt to have a stronger effect upon the nostrils than one completely full, as it has more room for the gas to accumulate.

The water of ammonia is simply solution of gaseous ammonia in water—and is obtained chiefly from residues of by-products in the manufacture of illuminating gas. At an early period its production from the destructive distillation of horns gave it the title Spirits Hartshorn which name is sometimes now used, and is often supposed to be the name of a manufacturer. It is a trade mystery, how a pint bottle of ammonia, 16 deg.—rubber stopple—and attractive label can be retailed for the ten cents usually asked.

The following results were taken at a temperature of 15 deg. C. In place of names of manufacturers, simply letters are given:

Name	Baume Degrees	Actual per cent	Parts by wt. of Ammonia, in 1000	No. ozs. the bottles hold, per gross	Specific gravity.
A	1.5	5.3	51	1872	0.9789
B	13.8	6.2	61	2660	0.9749
C	14.2	7.0	70	1782	0.9719
D	14.8	7.6	71	2010	0.9700
E	15.0	8.5	86	2404	0.9630
F	15.3	9.	89	2404	0.9620
G	16.0	9.9	95	1872	0.9600
H	16.3	10.2	98	2404	0.9589
I	17.0	11.3	105	2404	0.9560
J	17.25	12.3	112	2260	0.9500
K	25.0	26.98	243	1872	0.9039
L	13.0	5.8	55	1872	0.9769

The parts by weight in 1000 show the smallest quantity to be 51. The largest, but one, 112. The largest one, 243, was nearly the strongest ordinary 26 degrees ammonia—and was evidently a mistake on the manufacturer's part. It is not safe to put such ammonia into such hands as family ammonia finds itself, neither could he afford to do so at the price asked for his article.—W. S. Beekman in N. E. Grocer.

#### CORNMEAL IN BREAD.

The British press is just now paying considerable attention to cornmeal. From a long article by John Goodfellow, F. R. M. S., in the London *Practical Confectioner* we make the following extracts. Our readers must remember that our English friends call our corn maize:

Only those who have visited America can have an adequate idea of the enormous quantity of maize produced. It is universally used in some form or other. Maize is found forming a considerable percentage of bread, cooked foods, farinaceous preparations, biscuits, cakes, etc., and hardly a meal passes without a maize dish being served up. Although the consumption of maize is so great, yet the yield is far more than sufficient to meet it, and maize forms a considerable item in the total value of the exports. Notwithstanding however the large quantity of maize which is consumed and exported, the enormous yield is still much beyond the demand, and the United States Government are making a determined effort to find a market for the surplus crops in Europe. With this object Colonel Murphy has been commissioned to endeavor to open up the British and other European markets to maize, and to take such steps as he deems advisable to make maize preparations known among Europeans. Maize is fairly familiar in Germany, where it is commonly used with wheaten flour to make bread, but it is comparatively un-



known in this country as an ingredient of "the staff of life."

Maize is a grass belonging to the tribe *Maydear*, and is easily cultivated in tropical or sub-tropical climates. It is very prolific, and bears the grains on little projections technically termed "cobs." There are many preparations of maize already in the market. Indian corn meal is obtained by grinding the entire grain, while hominy is produced by reducing the kernel to granules. Various patent preparations of maize have also been introduced into this country, and have been extensively used in breweries. A special form of cooked maize has lately been before the public as a palatable and nutritious food.

It is claimed for maize that when used for bread-making it cheapens the loaf without a deterioration of quality. There can be no doubt that the substitution of 25 per cent of maize for wheaten flour increases the absorbing powers of the dough, so that the resulting bread is moister, and the yield is greater. Moreover, maize is slightly richer in proteids (nitrogen) than ordinary fine flour, and therefore the addition of maize does not lower the ratio of proteids to carbohydrates. But it is doubtful whether the ordinary maize meal when added to wheaten flour gives a sufficient extra yield to compensate the baker for the trouble of preparation. Besides, the flavor of bread made with the ordinary maize meal is, in my opinion, not to be recommended, being somewhat bitter.

Maize meal contains a very high percentage of fat, and a fair proportion of proteid material. In the crude maize preparations from 15 to 20 per cent of the proteid is non-assimilable, being excreted from the alimentary canal unacted on by the digestive juices. In finer varieties the amount of proteid digested is equal to that in wheat products. Maize contains no gluten, so that comparatively strong flours should be used in conjunction with maize. The following analyses give the composition of an average sample of maize meal compared with an average specimen of wheaten flour:—

	Maize Meal.	Flour.
Water,	15.61	12.0
Proteids (nitrogen),	10.93	9.3
Fat,	4.35	0.8
Carbo-hydrates (starch, &c.),	65.57	76.5
Fibre,	2.11	0.7
Mineral matter,	1.43	0.7
	100.00	100.0

It will be clear from a study of the above analyses that the addition of maize meal does not actually depreciate the nourishing qualities of the loaf; but on the other hand raises the ratio of nitrogen, and increases the percentage of fat when calculated on the dry solids.

Although the maize may not actually reduce the nourishing qualities of the loaf as regards the proportion of the constituents, yet it has a considerable effect on the absorption of moisture, so that, supposing the price of maize bread to be equal to ordinary bread, as doubtless it would, the consumer would obtain less weight of nutriment for a penny than if he bought ordinary bread. In a case that came under my notice one pennyworth of ordinary bread yielded 8.32 ounces of nutriment. At the same time a maize bread which I examined only yielded 7.41 ounces.

CHANGED HIS NAME.—"Howdy-do, Hogg?"

"My name is Bacon, sir."

"Beg pardon; but I felt sure you were Mr. Hogg, the invalid."

"So I was; but I have been cured."

## GAS STOVES FOR COOKING.

FOR SMALL FAMILIES THEY POSSESS MANY ADVANTAGES OVER COAL STOVES AND ARE LESS EXPENSIVE.

The advantages of gas over coal for cooking cannot be imagined; one must make the trial in order to know how much better in every way it is to cook by gas. I have tried it for over a year, and from my experience can unhesitatingly recommend the use of a gas range for all sorts of cooking. The strongest argument against using gas stoves has been the expense one would incur from enormous gas bills. I found that a mistaken idea. It was almost with fear and trembling that I waited for my first gas bill after I began cooking by gas, and, much to my surprise and delight, I found it but a dollar more than for the same month the year previous. My apartment was steam heated and I had to keep but one fire, and that was in my kitchen range.

My coal bills every month were \$2.63, as I burned just half a ton of coal. In that time in addition I had to pay the janitor twenty-five cents each time the coal was put in. Then there was the kindling wood, of which I kept no account.

### A GREAT IMPROVEMENT.

I was compelled to do my own work, and, as any woman would, I got tired of the dust and ashes of a coal fire and the lifting of the coal and, to be brief, I got heartily sick and tired of the disagreeable task of building and keeping a coal fire; so I determined to invest my small savings in a gas stove.

I got a good one with a broiler and a large portable oven for \$15. The gas company put in the pipes and made the connections without charge, and the result was that I found my housekeeping simplified and made much easier. My kitchen was cool all the summer, as I could turn off the gas as soon as I got through cooking. And in the winter I found that I could keep the kitchen sufficiently warm by turning the gas very low in the stove. My gas bills did not average \$4 a month the year round.

Some one may ask what I did for hot water. Fortunately the hot water was furnished, as it should be in every apartment building in the city, as rents are high enough for tenants to expect and demand it. Next year I moved into an apartment where the hot water was not furnished, and I got a gas range with a water back and boiler for \$38, and my experience regarding the size of my gas bills was the same as the previous year.

### MONEY IN IT.

There is no reason why some means of supplying our common kitchen ranges with gas as a fuel should not be adopted in New York. The man or woman who would introduce some method by which this could be done would make his or her everlasting fortune, besides becoming a benefactor to the human race, or at least to that portion of it which is compelled to do its own housework.

In Pittsburg and Bradford, and in all the towns near where natural gas is found, it has not been necessary for the people to buy new stoves, for through some process the gas is introduced through pipes into the old ones, and is used for heating and cooking purposes.

Of course the gas companies here will tell you it can't be done; this is because they want to sell their stoves. My gas range has a chimney connection, so there is no odor whatever arising from it. It is only the sheet iron gas stove used for heating purposes that has the disagreeable odors to which people object.

Some of the best hotels in New York are using gas ranges for cooking, and the chefs told me they preferred them infinitely to coal.

## ADULTERATION.

### ADULTERATED WINES.

The two most important fruity wines, viz., port and sherry, are adulterated to an enormous extent. In Portugal the juice of elderberries is largely added to port in order to heighten its color, and extract of rhatany for the purpose of improving the color and imparting an astringence to the wine.

That is how it comes to us; now let us see how it fares when it reaches the hands of the British purveyor! "In England, beetroot, Brazil wood, the juices of elderberries and whortleberries, the pressed core of elder wine, extract of logwood, etc., are commonly added to port to give it a fictitious color; and oak sawdust, alum and extract of rhatany to give it an astringent taste. A mixture of elder juice, grape juice, brown sugar and crude brandy, called '*jerupiga*' is the commonest adulterant of port, both in this country and in Portugal; its addition to the wine in bond is permitted by the Custom House authorities."

An authority tells us that "A mixture commonly sold for sherry consists of cape wine, to which a nutty flavor is imparted by means of bitter almonds, and a fullness by the addition of honey, and rendered more alcoholic by a little plain spirit or pale brandy. This mixture is subjected to an insensible fermentation and is then sold as good sherry. Sherry is colored by means of concentrated must, burnt sugar, or spirit coloring."

But there are still worse wines sold in England than those we have named, and for the preparation of these some famous receipts are before us. It will only be necessary here to give some notion of the ingredients. They are out of 150 litres of wine, 83 litres of river water, 20 litres of common brandy, 1 litre of vinegar, 300 grammes of tartaric acid, 15 to 20 grammes of powdered iris, and 500 grammes of powdered charcoal. The process of preparation is not of any value to these articles. Another wine that is sold here as a fairly good champagne is made as follows, taken bodily from the receipt book of a practical manufacturer of champagne for consumption in this country:

"In the first place a stock mixture is prepared by infusing 30 grammes of bruised gall nuts in 2 litres of boiling water, using an earthenware vessel for the purpose. Heat 23 litres of water to boiling, and dissolve in it 60 grammes of boracic acid, 300 grammes of cream of tartar, 18 kilos. of white sugar, and 100 grammes of common salt. When this is all dissolved, add to it 75 litres of water, making 100 litres of water in all when mixed with the solution of nutgalls. This quantity of mixture will be sufficient to operate on 100 kilos. of unpicked grapes, smashed and put into a cask to ferment. In order to give a good color to the wine the skins of the grapes should be left in the vat, being kept at the bottom by a coarse cane sieve or false bottom. The color of champagne is secured by adding to the grapes a handful of dried hollyhock petals. The wine begins to ferment immediately, and can soon be racked off and drawn into bottles, the secondary fermentation following at once."

The foregoing is a translated copy of the receipt from which one of the ordinary champagnes of commerce is prepared for this country to retail at 5s. or 6s. a bottle.—*M. W. Trade Review*.

DIRECT HEAT.—If the truth were known, it is probably the same man who was afraid to pour hot water into a wooden vessel, lest it would produce a fire, who now endeavors to light his cigar at an incandescent lamp.



### GLUE IN ICE CREAM.

WHY ICE CREAM SOMETIMES IS POISONOUS.

The attention of health officers and legislators is respectfully called to the necessity of restriction and inspection of confectioners using glue, as disclosed in the following communication. Physicians also, may perhaps find in it a guiding point for diagnosis and prescription in cases of ice cream poisoning. We should feel obliged to our correspondent if he would ascertain and communicate the names of the antiseptics most employed in connection with the manufacture of glue.

Not long since I was conversing with one of the largest manufacturers of glue and gelatine in the country, when, in illustrating and explaining another matter, he chanced to make an interesting statement in relation to sickness occasioned by eating ice cream. I believe that I shall violate no confidence in repeating the substance of what he said, which was, that much, if not most, of the sickness referred to was caused by the use of glue containing some form of antiseptic. The use of gelatine to prevent ice cream from losing form and melting down rapidly, is desirable and even necessary, and were good gelatine, such as is prepared for food purposes, employed, no objection could be raised. But close competition and the greed of gain tempt manufacturers of the cream to buy glue at a less price as a substitute for gelatine. The cream makers are usually ignorant that antiseptics (which are nearly all poisonous) are frequently employed by glue manufacturers to prevent decomposition of the very perishable materials from which the glue is made. The cream-maker does not usually state that he wants glue for making into ice cream, and so the seller has no opportunity to warn or advise, and the cream-maker uses the glue and wonders why it makes people sick.

I suggested that such of his trade as made use of poisonous antiseptics should get out a circular giving suitable advice, and send it to all ice cream manufacturers. He replied that his own firm got along without using antiseptics by working up their stock quickly in various sized batches according to the weather, and that they were mostly used by makers who endeavored to make the process of glue-making more continuous and so more conveniently and economically managed, and that those who used antiseptics would not usually want to advertise that they did so.—*Sanitary News*.

### HOW TO EXAMINE STARCH

Various kinds of starch being used in finishing cotton goods, as dressings, etc., which often vary in quality, it is desirable for every user of starch to ascertain the quality of the article he has purchased or is about to buy. The principal property of starch is, that it forms a more or less adhesive paste; this should always be perfectly homogeneous, as white as possible, and maintain its consistence for some time; but sooner or later it breaks up in small lumps and water accumulates. The value of starch depends upon the quantity of water which is required to produce the sufficiently adhesive mass, and it is the better, the longer the time it takes for the mixture to break up or become watery. For examination of a given article, five pints starch are mixed with twenty pints cold water, then 230 pints boiling water are added and thoroughly stirred. (The test may be made in a shallow china dish). When the mixture has become cold and set, a part of it is placed upon a plate or slab and examined upon its consistence. The sample showing the strongest co-

hesion represents the best quality of starch. The paste is then left alone for several hours, but observed and every alteration noted. That mass which is the latest to become waterish, respectively retains its consistence the longest, is the best amongst several samples. The reaction of starch ought to be neutral; if it shows alkaline reaction, it should be rejected, as it is in that case apt to cause trouble in finishing.

### ALCOHOLIC LIQUORS IN FRANCE.

The increase in alcoholism has attracted considerable attention in France during the last few years. The Academy of Medicine has called this fact to the attention of Parliament, and a committee has been appointed to inquire as to the nature of the alcohols used in the manufacture of beverages that enter so largely into the daily consumption. A report which has recently been sent to the minister on the subject has caused considerable excitement among consumers, and the press of the country has commented freely upon the results of the investigation.

It is well known that the production of natural wine in France, on account of the destruction of the vineyards by the phylloxera and cryptogamous diseases, has decreased so greatly that the tendency of the poorer classes is to drink spirits, instead of the pure grape juice, which is now very dear. The result of this habit is that drunkenness and insanity have increased, and the effect on the workingmen has been very marked.

The idea has been current that good brandy and spirituous drinks could be obtained at the large restaurants and cafés if one were willing to pay the price demanded for unadulterated liquors; but this commission states that the exorbitant cost of the article is no guaranty of its purity. The difference between what was sold in these places and that retailed in the poor quarters of Paris was insignificant.

Mr. Guillemet, a deputy from the Vendée, has proposed in the Chamber of Deputies, in the name of the general excise commission, that the sole right of rectification of alcohols be given to the Government. This, the honorable deputy argues, will not only bring into the treasury of France a large sum, but it will also relieve the French population from the terrible effects of alcoholism, as the spirituous liquors are now so terribly adulterated.

A series of analyses was made by Dr. Héret, chief of the pharmaceutical department of the Trousseau Hospital, and he states that it is the bad quality rather than the quantity of alcoholic drink consumed that produces the evil results.

"It is conceded," says Mr. Guillemet, "that fine brandies are manufactured in France, and that the bottles bear marks of houses of world-wide repute; the wealthy consumer buys what he thinks is absolutely pure Cognac, but incontestable figures prove that nine-tenths of the alcohol drunk in France is adulterated in many ways."

The commission procured a large number of samples of liquors from establishments of all classes of retailers. These were submitted to a careful analysis, and every one was declared "dangerous and bad;" all were imperfectly rectified.

The experiments made by Dr. Héret showed that of five samples of Cognac taken from fine boulevard restaurants, where they were sold at one franc the liqueur glass, each one was injurious to the health, and all had been colored with caramel. Among other samples of brandy obtained from less pretentious saloons the analysis manifested that common wood alcohol diluted

with river water, colored with caramel, and flavored with a mixture composed of ether and vegetable substances existed in all. These were much less dangerous to health than many of the samples tested. The examination showed that the alcoholic beverages sold to workingmen, like much that is sold to the United States, contained impure wood alcohol, amylic acid, formic ethers, etc. These samples were sharp, caustic, burning, and colored with caramel, vegetable matter, and methylene. All were labeled "dangerous," but not more so than those sold at 75 centimes and 1 franc the glass on the boulevards.

It is a noteworthy fact that all these so-called brandies were manufactured; not one of them was natural pure grape juice.

The question has often been asked, what is it that gives these brandies their color and perfume? The analysis just made shows that the former is generally given by adding caramel and catechu. The latter is supplied by mixing certain ethers and vegetable substances together.

The chemists are still pursuing their analyses on the subject, and are certain that they can show exactly what materials are employed in adulterating and preparing so-called Cognacs and brandies without the natural grape juice.

Considering the importance of the exports of alcoholic drinks from France to the United States, these analyses are worthy of careful consideration by the American consumers.

WALTER T. GRIFFIN,  
Commercial Agent.

Limoges, March 16, 1893.

## MEDICAL.

### INFLUENCE OF BORAX AND BORACIC ACID ON DIGESTION.

BY R. H. CHITTENDEN, PH.D., PROFESSOR OF PHYSIOLOGICAL CHEMISTRY IN YALE UNIVERSITY.

[Condensed from *Dietetic Gazette*.]

[Concluded.]

#### III.—PANCREATIC DIGESTION.

In studying the influence of borax and boracic acid on pancreatic digestion, we have limited our experiments to a demonstration of the influence of these agents on the proteid-digesting ferment, the pancreatic digestion of proteids being unquestionably the most important function of this secretion.

As is well known, the proteolytic ferment of the pancreatic juice (trypsin) exercises its peculiar digestive power in both neutral and alkaline-reacting solutions. Consequently it seemed desirable to test the influence of borax under both conditions.

For the first series of experiments, an artificial pancreatic juice was prepared by dissolving 2.0 grams of a fairly strong preparation of trypsin in 500 c. c. of water. The clear, filtered solution reacted exactly neutral to test papers and was possessed of pronounced digestive power. In order to give variety to the experiments, the digestions were made with cooked beef proteids.

From these results it is apparent that the addition of borax to a neutral solution of trypsin increases very greatly the digestive action of the ferment; and it is furthermore noticeable that this increase in proteolytic power is proportional to the increase in the amount of borax up to 2.0 per cent, beyond which point the digestive action diminishes with the increased addition of borax, although even in the presence of 10 per cent solution of the salt proteolytic action is far beyond that of the control digestion. This very pronounced increase of digestive action in the pres-



ence of borax is no doubt due in great part to the alkaline reaction of the salt; but, however this may be, it is very evident that borax will not have any inhibitory effect upon the pancreatic digestion of proteids in a neutral solution.

It may be mentioned here, that increased proteolytic action in the presence of either borax or boric acid is not due to any direct solvent power of these agents on the proteid matter, since a 2.0 per cent solution of boric acid alone, in contact with cooked beef proteids, for even six to seven hours at 40 deg. C., will not dissolve more than 0.3-0.4 per cent. Borax, owing to its alkaline reaction, has a somewhat greater solvent power on proteid matter, but under the conditions of the above experiments, a 2.0 per cent solution will not dissolve more than 1.5 per cent of coagulated proteids; certainly not enough to explain the great increase in digestive action so conspicuous in many of the experiments.

In a second series of experiments an alkaline pancreatic juice was employed.

We can conclude that in an alkaline, as well as in a neutral pancreatic juice, borax will increase the rate of proteolytic action, although the retarding effect of large quantities of the salt is more quickly felt in the former solution than in a neutral fluid.

With a very vigorous pancreatic digestion, using an alkaline trypsin solution, increased digestive action due to the presence of small amounts of borax is less pronounced than in the preceding experiment.

In testing the influence of boric acid on the proteolytic action of trypsin, a neutral solution of the ferment was employed, since in an alkaline reacting fluid the acid would be quickly converted into a borate. The digestions were conducted in the same manner as those already described.

From these results it is plain that boric acid, doubtless owing to its weak acidity, has little or no power of checking the proteolytic action of neutral solutions of trypsin, until it is present in a digestive mixture in quantities beyond one per cent, and even then its retarding effect is not very pronounced.

In conclusion, the foregoing results would appear to warrant the statement that borax and boric acid, when present in moderate quantities, can have little or no deleterious effect upon the more important chemical processes of digestion. On the contrary, it would appear that the presence of these agents may, in some cases at least, even accelerate the normal digestive processes of the alimentary tract.

#### NATURAL AND ARTIFICIAL LITHIA.

In a clinical lecture on the treatment of the gouty state by Frank Woodbury, M. D., professor of clinical medicine in the Medico-Chirurgical college, formerly attending physician to the German hospital of Philadelphia, etc., etc., he says:

"Among the most important means of treating the gouty state is the persistent use of a good natural lithia water, which may be used at the table and at other times. As pointed out by Sir Henry Thompson, the artificial mineral waters or solutions of salts are less efficient therapeutically than waters from Nature's laboratory. Many mineral waters are offered to the public for lithæmic conditions, whose only therapeutic value resides in the water which they contain. Trouseau indeed cautions against an excess of water drinking by gouty subjects, as being injurious and likely to intensify the symptoms. This is more likely to occur where the kidneys have been structurally altered by the disease, and therefore

have their functional activity more or less reduced. Lithia, on chemical grounds, is considered the most useful of the alkali remedies, because it forms more soluble salts with uric acid than any other base. It is not clear, however, why uric acid should combine with the lithia salts in the presence of sodium carbonates in the blood, when as a rule the base which forms the insoluble salt is considered to have a stronger affinity for an acid than one which combines with it and remains in solution. I mention this because I am not willing to concede all the good results from such a water, for instance, as the well-known Buffalo Lithia Water, to the presence of the lithia, any more than I would be to ascribe it entirely to the pure water which it contains. The fact is that experience has abundantly shown that the good effects of the natural lithia water are to be ascribed to the peculiar combination of salts, just as in drug-prescribing we obtain special effects by combining our remedies. It is gratifying to witness the good effects of the daily use of four or five glasses of the Buffalo Lithia Water in relieving the usual symptoms of lithæmia, or even in removing the more severe condition of gravel or uric acid deposits."

#### MATTEISM: A NEW HOMOEOPATHY.

In 1878 a certain Count Cesare Mattei published a book on what he denominated electro-homoeopathy, a new system of specific medicine that was based on a fantastic theory of vegetable electricity. This work went through many editions in Italy, and was translated into French, English and German. The author's disciples found new names for the cult in "Matteism," "proto-electromatteopathy," and "vegetable electricity." An old castle that he had occupied in Italy became the Mecca of many invalids, and the Count pursued his studies and prepared his remedies in a carefully secured room in an isolated tower that was equipped with various weapons of warfare, as well as the more peaceful implements of science. The reason for the parade of weapons was that the Count feared an attempt would be made to wrest his secrets from him. Impressed by his pretensions and those of his pupils, Lady Paget and Mr. W. T. Stead have separately published papers in certain English periodicals advocating his methods, especially that of curing cancer without resorting to the knife. An investigation committee, consisting of the late Sir Morell Mackenzie, Mr. Lawson Tait, and Dr. G. W. Potter, was appointed by the British Medical Association, and the latter gentleman publishes its report in the *British Medical Journal* for August 13. It is stated that Matteism was assuming such large proportions in England, where it was practiced even by regular medical practitioners, that the committee, while never doubting the results of their investigation, considered it necessary to give the matter serious and deliberate attention. The Matteists declined to inform the committee of the composition of their remedies, and it was informed that it was not to treat cases, but to see cures and admit their accomplishment. While it was affirmed that cancer would be cured, if still in the "first or second stage," yet patient after patient sent in by the committee was declined on one pretext or another. This put Mr. Stead in the position of having to expose the Matteists in his Review of Reviews, if they persisted in declining every patient sent in, so they were obliged to accept five, out of a large number having cancer of the breast, submitted for experiment. A paid registrar watched the patients in detail, from week to week, for a year; and the members

of the committee, in turn, regularly inspected them and noted their progress. When Sir Morell Mackenzie died, Mr. H. A. Reeves and Mr. John Hopkins were added to the committee. The patients steadily grew worse just as if no treatment whatever had been used. The Matteists sought in various ways to bring the investigation to a close, and did so at last on the pretext that the committee had broken one of its own rules, with which, however, the Matteists had nothing to do. Matteism, in the deliberate judgment of the committee, "consists exclusively of vulgar, unadulterated, unredeemed quackery." An analysis of the "electricities," as the potions of the Matteists are called, yielded no other reaction than that of plain distilled water, and the results of their administration confirmed the chemical analysis. The report concludes: "The savage trusts to his amulet; the civilized man, both in the upper and lower circles, submits himself with childish, if not child-like, simplicity to the pretenses of the quack. It is a strange world; but, such as it is, open and honorable medicine has to live and work in it, and must make the best it can of so wonderfully varied an environment."—*New York Med. Journal*.

#### APOLLINARIS WATER.

Apollinaris water is said to have the following composition, several separate analyses giving about the same results. The contents of 16 fluid ounces are:

	Grains.
Sodium carbonate.....	9.65
Magnesium carbonate.....	3.39
Calcium carbonate.....	0.45
Sodium chloride.....	3.57
Sodium sulphate.....	2.30
Ferric oxide.....	0.15
Alumina.....	0.15
Silica.....	0.06
Total.....	19.72

—Bischof, Analyst.

A water to draw at the counter may be made as follows:

	Grains.
Sodium carbonate.....	2118
Sodium sulphate.....	287
Sodium silicate.....	17
Calcium chloride.....	178
Magnesium chloride.....	30
Aluminum chloride.....	6
Magnesium carbonate.....	338
Iron sulphate.....	7

Dissolve the first three salts in a gallon of water and add to 8½ gallons of water in a fountain and charge to 10 pounds. Dissolve the three following salts in 2 pints of water and add to the fountain, which has been disconnected after the preliminary charging. The carbonate magnesium mix with 2 pints water, and add at same time, as also the iron sulphate dissolved in 1 ounce of water. Close the fountain and charge to 80 pounds pressure.—*Pharmaceutical Record*.

#### FLIES AS THE BEARERS OF CONTAGION.

A Japanese bacteriologist, says the *Medical Press and Circular*, has made some investigations tending to show the role played by flies in the spread of infection. He finds that these ubiquitous insects may be one of the means by which tuberculosis and anthrax are disseminated. He believes that he has been able to trace the conveyance by them of microbic elements from infected human excreta, the odor of which is de-



tected by flies at apparently vast distances; the bacilli have their vitality fostered amid the moist environment of the flies' alimentary canal. Infection of food substances becomes the next step, which is in all probability effected by the lodgment of the bacilli having spores from the bowels of the flies as they rapidly flit from one object to another. These food substances, with the pathogenic fly-filth upon them, are next ingested by man, who, if he is in a proper state of receptivity, absorbs and becomes infected by one or the other of his microbic enemies.—*Annals of Hygiene*.

#### CINDER IN YOUR EYE.

Nine persons out of every ten with a cinder or any foreign substance in the eye will instantly begin to rub the eye with one hand while hunting for their handkerchief with the other. They may, and sometimes do, remove the offending cinder; but more frequently they rub until the eye becomes inflamed, bind a handkerchief around the head and go to bed. This is all wrong. The better way is not to rub the eye with the cinder in at all, but rub the other eye as vigorously as you like. A few years since I was riding on an engine. The engineer threw open the front window, and I caught a cinder that gave me the most excruciating pain. I began to rub the eye with both hands. "Let your eye alone, and rub the other eye [this from the engineer]. I know you doctors think you know it all, but if you will let that eye alone and rub the other one the cinder will be out in two minutes," persisted the engineer. I began to rub the other eye, and soon I felt the cinder down near the inner canthus, and made ready to take it out. "Let it alone and keep at the well eye," shouted the doctor pro tem. I did so for a minute longer, and, looking in a small glass he gave me, I found the offender on my cheek. Since then I have tried it many times, and have advised many others, and I have never known it to fail in one instance, unless it was as sharp as a piece of steel or something that cut into the ball and required an operation to remove it.—*Medical Summary*.

#### NATURE OF FISH POISON.

Some persons exhibit an idiosyncrasy to being poisoned by fish, while to others no harm seems to happen under any circumstances. Arnstamoff has observed eleven cases of poisoning in human beings after eating salted salmon; of these five died. An examination of the fish showed a peculiar soft consistency, but no putrefaction. A large number of living micro-organisms were seen under the microscope, and these bore a strong resemblance to typhoid bacilli. Symptoms of poisoning developed in the patients in ten to twenty-eight hours, after ingestion of the fish, but the amount ingested had no influence on the rapidity and intensity of the poisonous symptoms. Complaint was made by the patients of general weakness, abdominal pains, difficulty of breathing, affection of sight, vertigo, dryness in the mouth, difficulty of swallowing, constipation and a lowered temperature. The post-mortem signs in the fatal cases were very indefinite, and if anything only pointed to death from asphyxia. Bacteriological and microscopical examination of the various organs afterwards revealed the presence of the same microbes which had been detected in the fish. Pure cultures made with these microbes were injected into nineteen rabbits, two dogs and two cats. The latter four animals recovered, but only after severe illnesses, while all the rabbits succumbed. Both in the symptoms presented dur-

ing life, and in the presence of the microbes in the organs after death, the toxic effects observed in the animals were identical to those noticed in the patients above referred to.

#### COMMON BOILS AND CARBUNCLES.

BY P. J. FARNSWORTH, A. M., M. D., CLINTON, IOWA.

If my attention is called to the disease in its pustular stage I apply *unguentum hydragryi*. If they are occurring in a crop several applications are made to a considerable surface. This prevents their recurrence, and aborts those under way. If the boil is fairly begun, is congested, cyanosed and throbbing, a "blue boil," I apply a plaster of *gum opium*. The gum moistened and spread on a cloth or the powder mixed with cerate. In a short time the throbbing ceases, the congestion is removed and in a few hours a circumscribed supuration takes place (comes to a head at once), the core or nidus comes out. An antiseptic wash soon completes the cure.

If the pustule is judged to be a carbuncle, a plaster made with mercurial ointment (*ung. hydrag.*) and powdered opium is applied, which either checks it in the start or converts it into an insignificant affair, soon maturing. A strong solution of *hydr. bichl.* 1 to 100 applied to the pimple or pustule is more effectual and produces little pain. It acts in the same manner as the mercurial ointment, destroying the microbe. The injection does not always strike the nest.

The carbuncle requires a more vigorous treatment. The crucial incision, if far advanced, and the ointment or wash of mercury. If in the early stage, apply opium mixed with the mercurial ointment. In either case when the opening comes use a syringe and wash out the cavity thoroughly with a mild bichloride solution or a strong one of carbolic acid.

The application of opium to an inflamed surface may be much more extended. It relieves the pain and prevents the spread of traumatic erysipelas, and is valuable in burns and extensive ulceration. A poultice or fomentation as commonly used is a germ disseminator and cultivator. For open sores apply a cerate of opium and a covering of absorbent cotton.—*Medical and Surgical Reporter*.

#### HEALTH RECOVERIES IN A DRY AND DENSE ATMOSPHERE.

Dr. Walter Lindley mentions finding in the San Felipe Sink, or Conchilla Valley, of Southern California, numerous asthmatics, rheumatics and consumptives, who recount marvelous recoveries as a result of living in the dry and dense atmosphere. This basin is about 130 miles in length by 30 miles in average width, and reaches a depth of about 360 feet below sea level. Among other deep valleys mentioned in this connection is the Sink of the Amorgosa, or Arroyo del Muerto, in Eastern California, which is 225 feet below sea level; the Caspian Sea is 85 feet below; Lake Asal, east of Abyssinia, in the Afar country, 8 miles long and 4 feet wide, is about 760 feet below sea level, and several other depressions in this vicinity reach about 600 feet below. Of course, the most remarkable depression below sea level—though not to be considered in any relation to health—is the Dead Sea, in Palestine, some 1,300 feet below the neighboring level of the Mediterranean.

#### SICK HEADACHE.

For a long time I have searched for a prescription that would cure sick headache. Various combinations were tried, but nothing satisfied me

until I came across the following in an English work on "Headaches; their Nature, Causes and Treatment," by Wm. Henry Day, M. D. To this I have added one ingredient, the bromide of ammonium. Some may object to the formula on the ground of polypharmacy, but where every drug is given for a definite purpose it is allowable to combine many ingredients into one prescription, especially when the resulting compound is as efficacious as the following:

Take of

Soda bicarbonate	1 dr.
Bismuth	1 dr.
Acacia powdered	1 dr.
Spts. ammon. aromat.	2 drs.
Ammonium bromide	1½ drs.
Syr. of ginger	3 drs.
Water to 8 oz.	

Dose 1 oz. as required.—*Ex.*

#### GLYCERIN IN DYSPEPSIA.

Glycerin, in drachm doses, is recommended by Dr. J. A. Pollard (*Notes on New Remedies*) as a most valuable remedy in preventing stomach trouble in convalescence from debilitating diseases, that it will often cut short an attack of indigestion, and that it will prevent and cure a large proportion of cases of summer diarrhoea in children. It will also control vomiting in pregnancy.

**CURIOUS FACTS.**—The year of greatest growth in boys is the seventeenth, in girls the fourteenth. While girls reach their height in their fifteenth year, they acquire full weight at the age of twenty. Boys are stronger than girls from birth to the eleventh year; then girls become superior physically to the seventeenth year, when the tables are again turned and remain so.—*Ex.*

Benzine in Pediculosis has been strongly recommended by Nedzwiecki. It may be used, as it is sold in commerce, when it will prove to be the most efficient, the cleanest and the handiest remedy for the destruction of *Pediculi capitis* and *pubis*. But it is necessary to bathe, as it were, the affected parts in the liquid for 3 or 5 minutes. The parasites and their nests are killed immediately. Almost always one single application is sufficient, even in the severest cases. In presence of eczematous reddening the same remedy may also be used.—*Abstract from Saratowsky sanit abzor in Internat pharm. General Anzeiger*.

Pravaz, the inventor of the hypodermic syringe, died recently at Lyons.

"DO AS I SAY, NOT AS I DO."—"Doctor, what do you do when you burn your mouth with hot coffee?" asked a young lady. "Swear," said the doctor.

Old Doctor—No, sir; I never have a patient die on my hands—never.

Young Doctor—How do you manage it?

Old Doctor—When I find a man is going to die I get him to call in a specialist.—*Life*.

Those people who lost election bets will now see the folly of their gaming. But to those people who won, we almost despair of pointing the moral. They simply refuse to see it.

ONE WAY TO BECOME A MERCHANT—"What are you doing for a living, Charlie?"

"As a result of the last election I will open a hat store. Here's my card. Call to see me."



## INVENTIONS, SCIENCE, ETC.

## THE ANT.

## HABITS AND PECULIARITIES OF THE INSECT.

When Solomon held up the ant as an example to the people, he probably knew far more of the whys and wherefores of his sayings than those immediately about him, or, indeed, many of those even to the present day who read his words, have ever suspected. While every form of life has its wonderfully interesting features, there is in the life and conduct of the ant much which challenges our admiration and respect as well as excites our curiosity and astonishment.

Sir John Lubbock, who is considered as the best living authority on the habits and peculiarities of these interesting small folk, has recently given some wonderfully interesting accounts of their doings, and relates incidents which go to prove the previous statements of writers on this subject and show that the ant is possessed of reasoning powers, or that which serves the same purpose, and which places them second only to mankind in the scale of intelligent management of their individual and general affairs. Ants seem to be as varied in their ways and customs as are people, and different tribes, grades, classes and localities show the most marked contrasts in the fashion of living and conducting their special concerns. The ant is usually held up to the school-boy and mankind in general as an example in the way of industry and economy, and as such is certainly a bright and shining light. As an agriculturist, the ant is a model. It cultivates the ground, plants seeds of various sorts, tends the plants with unvarying care and patience, harvests the crop when in suitable condition, cures it and transports it to storehouses prepared for the reception of the winter's supply of food. It is rare, indeed, that these storehouses are built where water can

affect them, but if this happens, and any unusual storm or inundation occurs, there is great consternation in the community. If it is possible to stop the ingress of water, this is done immediately. When clear weather comes again, the grain is taken to the open air, thoroughly dried, assorted, cleaned and prepared for restorage. The warehouses meanwhile have been cleaned by other workers, and if their builders, architects and civil engineers approve, they are repaired, otherwise they are abandoned and new ones are constructed.

Certain sorts of ants hold slaves, and exact tasks of them, with overseers who encourage them to work, and punish the delinquent and disobedient. To secure these slaves, they make wars on adjacent tribes and take the defeated armies as captives. The prisoners, as a rule, are docile and obedient, and go to work under their new masters with as much alacrity as they aforesaid displayed about their own concerns. Their adaptability is one of the curious features of the case. They seem to forget that they know other conditions, and at once fall into the ways of their new associates. There are, according to the same eminent authority, ants in Mexico which cultivate the soil and plant beds of mushrooms, which they grow for their own tables, as it were. They keep milch cows, which are aphides of a certain sort. These they protect, watch over and tend with the most assiduous care.

Their civil engineering is a marvel. Their roadways, tunnels, causeways, walls and fortifications are of such extent that it would seem impossible that such tiny creatures could accomplish such herculean tasks. In the building of their houses and their provisions for comfort during severe weather they exhibit the most marked intelligence, so much, indeed, that many valuable hints might be taken from their methods.

And they, with all of their industry, do not

confine themselves strictly to labor. They apparently work on the idea that all work and no play makes Jack a dull boy; therefore, they have their regular amusements, which they go about with a system and gravity which are as interesting as they are amusing. They play games with actors and lookers-on, the same as grown-up folks. They have sham battles, wrestling and playing, romping and disporting themselves in various ways.

Like mankind, they live on the products of their flocks and herds and their agricultural resources, which they care for and manage with almost as much good sense and judgment as are displayed by the members of the human family in the conduct of their most important concerns. —*Ledger*.

Pleasant Old Lady—Little boys, are you having a good time playing ball?

Boy from New York—You bet.

Boy from Boston—Madam, I greatly reprehend my companion's uncouth rejoinder; I can assure you, however, that we are experiencing a measurable degree of satisfaction.

De Jinks—The tailor said I could have the suit for \$35 cash or \$50 on credit.

Bjones—Of course you studied economy.

De Jinks—Certainly. I took it for \$50.

The tailor-made gown costs a pretty figure, but it also bestows one.

## DELIGHTFULLY COOL AND REFRESHING

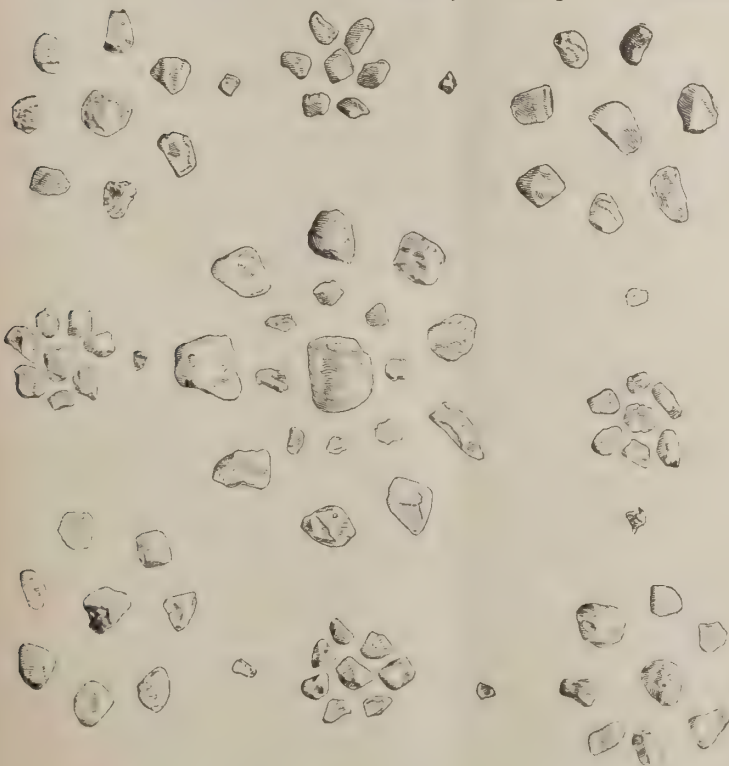
Horsford's Acid Phosphate, with ice water and sugar.

Dr. C. H. S. Davis, Meriden, Conn., says: "I have used it as a pleasant and cooling drink in fevers, and have been very much pleased with it."

## BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



*The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.*

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## AN EPIDEMIC.

Cases of meningitis have been of late so frequent as to excite remark and even alarm in New York, where no less than twenty-three deaths occurred from it in one week, and the press has characterized this unusual prevalence as "an epidemic." An epidemic of a disease so generally fatal as is meningitis, may well be regarded as a very serious matter and intelligent persons, mindful of the wise adage that "an ounce of prevention is worth a pound of cure," should fortify themselves by precautionary measures against the possibility of being numbered among its victims. It is a common error among the ignorant that epidemics are always due to the pervasion of the atmosphere by the special germs or bacilli of the diseases occurring in that form, but such is by no means the fact. The causes may exist in the sufferer himself and be the product of his own sins of omission or commission, quite independent of any malefic, microscopic demon of the air. All maladies to which human flesh is heir, apart from infectious and contagious diseases and poisons, have their inception in derangements of the vital organs, caused, as a rule, by neglect of the laws of health. The man who, by too violent and sustained mental effort, exhausts his nervous system and inevitates consequent impairment of his digestive functions, puts himself in a plight of lowered vitality which renders him readily

## Delicious Drink.

### Horsford's Acid Phosphate

with water and sugar only, makes a delicious, healthful and invigorating drink.

Allays the thirst, aids digestion, and relieves the lassitude so common in midsummer.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me." As a beverage it possesses charms beyond anything I know of in the form of medicine."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

## Every Woman is an Unbeliever.



She can't believe, to begin with, that Pear-

line can do so much. She hears that everybody is using it; finally she tries it. It does all she's heard of; it saves all that she's been told. She takes comfort in using it. But

She can't believe that so much can be done safely. She con-

sults those who have used it for years. She finds that Pearline has been tested and proved in a hundred ways; that it's harmless to hands or fabric; that it's as safe as good soap. Then



She can't believe that she

ever did without it. She has less to do, she gets more done—and it's all done better.

Her clothes last longer—they're not rubbed to pieces. Her housework is easy; her time is her own.

She believes in Pearline, and tells her friends about it—(that's the most effective kind of advertising).

## Beware

Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, if your grocer sends you an imitation, be honest—send it back. JAMES PVLE, New York.

susceptible to the attack of any disease. No less does he do so who, by excessive indulgence in rich food and stimulative beverages, clogs his excretory and weakens his assimilative organs. And when many persons in a community do these things, habitually, it stands to reason that there must be that number ready to fall sick upon the slightest provocation, even a little nervous shock or a slight change in temperature. That such is the case is as certain as that many good arithmeticians simultaneously adding "two" and "two" will, with great uniformity, obtain the same resultant "four." And the many simultaneous cases of like disorders, natural products of like causes, constitute what an alarmed press proclaims as "an epidemic." Those who would not have themselves registered on the book of Fate as inevitable victims in such a visitation, should take care that their vital organs are maintained in proper condition to duly discharge their all-important functions; that the stomach, liver, kidneys and bowels are sound and well—for upon these depend the making of pure and rich blood, which is the life of the whole vital economy. As a preservative of health, a preventer of disease and a cure for physical ailments already engendered, there is nothing equal to Ayer's Compound Extract of Sarsaparilla. It is a scientifically compounded preparation, made from the best materials and with conscientious care, the ingredients of which are universally recognized by the medical profession as the best in the pharmacopea for their special uses, and resulting in an absolutely perfect alterative medicine; one that does all that has just been specified as needful for the cure of disease and conservation of health; one that is a safeguard against such "epidemics," as now form the basis of the meningitis scare.

### BEWARE OF OINTMENTS FOR CATARRH THAT CONTAIN MERCURY,

As mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally, and made in Toledo, Ohio, by F. J. Cheney & Co.

Sold by Druggists, price 75c per bottle.

True contentment depends not on what we have. A tub was large enough for Diogenes, but all the world too little for Alexander.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Arpad Haraszthy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets.

O V Chablis, possessed of all the delicate pungency of its French counterpart.

O V Sauternes, with the exact character and Sève of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.



## HYGIENIC.

## SEASICKNESS.

Most of those who have experienced the miseries of seasickness, however they might differ in minor details of statement, would agree in ascribing this most dispiriting malady to one main cause—the motion of the ship. In so far the whole medical faculty would concur in their decision. This, then, is the central fact which confers upon the disorder its unique position. It is really not a pathological, but a physiological disturbance. It has no natural connection with dyspepsia. The robust and healthy, by a strange contradiction, suffer from it for the time hardly less than the weak and ill. Its variations of intensity are felt to be counterparts of mere bodily oscillation. Some find relief from it in change of posture, others in active occupation, all more or less when their storm-tossed vessel sails under the lee of land. Custom and use commonly secure immunity. These are circumstances which one and all point to mechanical causation as the source of the discomfort. It is the unaccustomed rise and fall, the jerk and relaxation of loosely attached abdominal viscera, mainly, perhaps, but not alone, of the stomach, acting upon the central nervous connections, which must bear the brunt of accusation. It follows that successful treatment can not be guaranteed by any one method or panacea. Recumbency, pure deck air, moderately firm bandaging of the body, are all useful. Drugs have their place and their partial utility; but, as we have already suggested, there is no remedy equal to a lee shore. Nothing can be much more depressing than seasickness, and for this reason we should strongly advise all weak persons not to encounter, if possible, the risk of its occurrence. It is astonishing how soon and how completely those who are favored with a fair measure of constitutional elasticity recover from its depression. In their case the benefits of a sea trip may thus, with compensations of air, diet and appetite, be even enhanced by a few hours of mechanical nausea. It is, in truth, for such persons only that tours of this kind are advisable. —*Lancet*.

## THE SKIN.

BY D. M. MORRILL.

The condition of the skin is evidence enough to the eye of a skilful physician of the condition of the body. A healthy skin is smooth, moist and clear. Ordinarily, one never notices the tiny scales that come from the skin, but after an illness, especially when there has been fever, they show plainly. Probably it is the same that rolls up when one rubs oneself during summer, or that comes off in a Turkish bath.

Given a healthy skin at first, and ordinary care of the body will keep the complexion unclouded and all eruptions away. With a very bad state of the skin one should go to a trustworthy doctor and not try to heal an interior trouble by home-made washes, which cannot cure the cause.

Pimples on the chin and about the nose are often caused by disease—I should say they generally are. On other parts of the face they may be due to a lack of nourishing food, to over-indulgence in rich food, or they may indicate serious disorders of the stomach and bowels. If the blood is poor it often gives a danger signal in the shape of pimples.

Blackheads are due to simple lack of care. They never come—at least I have never known a case where they came—to a person who was care-

ful about washing her face. I can hear your chorus of protests, but this is true. Many girls never wash their faces. They half wash with a little water. If every other night in a week you take water quite warm, as warm as you can stand, make suds of castile soap, take your hands and rub face and neck vigorously for three minutes, change the water to more that is warm, repeat without the soap, rinse again in warm, then in cold. Then you will have a clean face. You will be astonished to see how you have taken off the dirt, and to feel the difference in the vigor of your skin. Girls who do this never have blackheads, though they may have other skin troubles.

Where one can use soap it is very good, but many cannot. Sometimes the best of soap produces a condition of the face when it feels raw. For sufferers of this class Indian meal is a fine soap substitute, and it makes the skin feel like satin.

If you have regard for your complexion, never go to bed without having first bathed thoroughly your face and neck. During the day particles of dust and soot are lodged upon the skin, and if not removed before the long night's rest become worked into the pores of the skin. Bay rum, or a lotion of rosewood, with a little glycerine, or lemon juice and glycerine, applied with a flannel cloth, will remove a great many particles that soap and water do not affect. These are all safe to use on tender skins. Squeeze a lemon into a quart of milk and you will have a cosmetic that is beneficial. Rub the face with it night and morning.

I do not give you any recipes to be made up and applied to your face, because it is folly. Pages might be filled with different prescriptions which are all useless. There are certain lotions like these named which are simple, cleansing and curative if there is a tendency to roughness from wind and air. Eat graham or brown bread, juicy steak and roast beef, onions, apples, oranges and lemons; avoid candies, beer, wines, pastry, tea and coffee and you will do more for your complexion than by dosing the skin outwardly. There are no cosmetics equal to happiness, good food, fresh air, exercise and a great deal of sleep.

Never wash the face when just returning from out of doors, or just before going into the air. It inclines the face to freckles and to wrinkles.

Oatmeal or almond meal bags for the bath are excellent to use. They made the skin soft and white. Cut a yard of cheese cloth into bags four inches square, sewing on the machine. If there is a broken thread the meal will ooze out. Mix thoroughly five pounds of fine oatmeal or almond meal, a half pound of pure castile soap in powder, and a pound of powdered Italian orris-root. Use as a sponge in warm water.

If your skin has a worn, jaded look you will find this treatment freshening it, until at the end of a month you have quite a different look: Plunge the face into a basin of hot water, sponge for three minutes; repeat with cold water; rub the face immediately with simple tincture of benzoin, two ounces to one pint of rose water. Do this every other night.

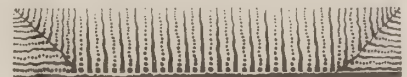
Sleeping with a mask over the face is excellent because it makes the pores of the skin clean through the perspiration induced. One of fine medicated rubber has a wonderfully good effect upon the skin.

Do not be beguiled into buying face bleaches or washes. They are all bad or worthless. There are few remedies for the skin and those named here are all one ought to try without a doctor's prescription. If there is any marked disorder of the skin, do not neglect it. If your ways of living are perfectly right, and you eat and sleep and breathe as you should the eruption or bad color is a sign there is trouble within. Look to it, not to the symptom. Cure the disease and there will be no more disturbance on the face.

## BUSINESS NOTES.

## A POINTER FOR TRAVELERS TO CHICAGO.

I have just made another trip to Chicago, the Windy City (by and by this will be called the "Smoky City," unless something is done to obviate the use of soft coal). I traveled over the New York Central road on the most comfortable train in the world—the Chicago Limited. I left New York at 10 o'clock one morning and was in Chicago the next morning at the same hour—a distance of 1,000 miles. The train was made up of Wagner Palace cars vestibuled throughout. There is some pleasure in traveling under such circumstances, and yet I did not feel that I was "putting on style" or indulging in extravagance. "Time is money," some one has said, and I reckon I saved in time more than the cost of the extra comfort. Moreover, the traveling was so smooth and easy that I had none of that "tired feeling" which one usually gets on the cars, and when I reached my destination I was fresh and ready for work. In returning I could not take the same train, but took another equally as good—the North Shore Limited. On both trains I felt as though I were gliding over ice on skates—the result of the good roadbed and the construction of the cars. Those who visit the World's Fair cannot do better than follow my example.—*American Bookmaker*.



## GOOD Food - - - Digestion - - - Complexion -

are all intimately connected—practically inseparable. Though the fact is often ignored, it is nevertheless true that a good complexion is an impossibility without good digestion, which in turn depends on good food.

There is no more common cause of indigestion than lard. Let the bright house-keeper use

## COTTOLINE

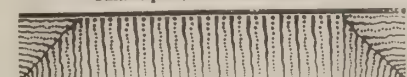
The New Vegetable Shortening

and substitute for lard, and her cheeks, with those of her family, will be far more likely to be "Like a rose in the snow."

COTTOLINE is clean, delicate, healthful and popular. Try it for yourself.

Send three cents in stamps to N. K. Fairbank & Co., Chicago, for handsome Cottolene Cook Book, containing six hundred recipes, prepared by nine eminent authorities on cooking.

Made only by  
**N. K. Fairbank & Co.,**  
Chicago, St. Louis, Montreal, New York, Boston,  
Philadelphia, San Francisco, etc.





## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

B. F. B.: What is phytoline? Is it any good for obesity?

Phytoline is said to be a preparation of phytolacca berries, made by a St. Louis house, much advertised and recommended for obesity. We are having it examined and will report on it later.

Rex: Can you tell me anything about saumetto?

It is said to be made of the saw palmetto and is advertised to cure kidney troubles. We have no further knowledge of it.

Ajax: We cannot give you any satisfactory information about "Amick's Chemical Cure for Consumption." The medical journals, at least some of them, have been full of advertising matter about it.

Housewife: Is it right for one of the health commissioners of New York to give a certificate of purity to a baking powder manufacturer?

We suppose you refer to a certificate given by Dr. Cyrus Edson to the Royal Baking Powder Company. If so we can only say that we hold an autograph letter from Dr. Edson, in which he says that he never gives such certificates, and that he authorizes us to declare that any purporting to come from him are not genuine.

## CONTAINS 4,000 BIOGRAPHIES.

Biography is the most entertaining and interesting form of history, and in biography the Revised Encyclopædia Britannica is particularly strong. Its English prototype, on the other hand, while devoting ample and sometimes unnecessary space to the history of men of past centuries, found no place for the living, or even for those who were alive as far back as 1880. In order to supply this lamentable deficiency, the compilers of the revised edition prepared almost 4,000 biographies of distinguished men and women of this generation. In the last volume of this work will be found the life-stories of Grant and Sherman and Sheridan, of Garfield, Cleveland, Harrison and Blaine, of Lowell, Holmes and a thousand other prominent Americans. There, too, the reader will find the biographies of Salisbury and Gladstone, of Parnell, Bismarck, of the statesmen and rulers, the philosophers and the scientific men of Europe. And of all these, if he were to purchase the original work, supposing that costly production to be obtainable by a man of ordinary fortune, he would not find in the Encyclopædia Britannica one single line to tell that they ever existed. In the Revised Edition ample space has been found for a full account of the lives and work of every person of note, whether at home or abroad. This one feature of the Revised Edition is of itself sufficient to characterize it as superior to all competitors.

Buckston—It must be a terrible thing for a man to waken in his coffin and discover that he has been buried alive.

Nendick—Oh, I don't know. A man who has slept in a hall bedroom wouldn't mind it.

AFTER THE HONEYMOON.—She (sweetly)—What would living be without me?

He (gloomily)—Cheaper.

## A WHOLE FLOCK OF IDEAS.



It was a favorite saying of Benjamin Franklin that if he obtained but one idea from a book he considered himself well repaid for his investment.

There is a silent but potent missionary that not alone suggests ideas to men, but tells them what the thinkers of all time have done with those ideas.

A missionary that represents the very fountain-head of all knowledge, that unlocks the secrets of nature and "chains the elements to our chariot wheels." This missionary is the justly celebrated **REVISED ENCYCLOPEDIA BRITANNICA**, and it appeals to every human being who can read.

If you have any special bent or inclination for any particular branch of knowledge, open the **REVISED ENCYCLOPEDIA BRITANNICA** and ideas will flock to you. If you are young, with your life before you, it will furnish you with ideas to advance your business interests and to make you a more useful member of society.

If you are a tired bread-winner, it will amuse and enliven you with stories of travel, with quaint and beautiful mythological legends, and with the facts about animals and flowers.

It is never wearisome, and it lasts a lifetime. It is Cosmopolitan and Democratic—for it makes no distinction between the rich and poor, except to say to the latter, "I am yours almost for the asking."

## ONLY 10 CENTS A DAY IS REQUIRED.

On receipt of only **One Dollar** we will forward to you, charges prepaid, the entire set of **TWENTY** volumes, the remaining \$9.00 to be paid at the rate of 10 cents a day (to be remitted monthly). A beautiful dime savings bank will be sent with the books, in which the dime may be deposited each day. This edition is printed from new, large type on a fine quality of paper, and is strongly bound in heavy manilla paper covers, which with proper care will last for years. Bear in mind that the entire 20 volumes are delivered to your address, with all charges paid to any part of the United States.

This special offer is made only to the readers of the **AMERICAN ANALYST**, and will remain open for a limited time only.

Cut this out and send to **AMERICAN ANALYST, 19 Park Place, New York.**

## AMERICAN ANALYST:

Please deliver to me the entire set of 20 volumes of Revised Encyclopædia Britannica, as above described, together with your Dime Savings Bank, for which I enclose One Dollar, and further agree to remit 10 cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

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THIS INCLUDES A PAID SUBSCRIPTION TO THE  
AMERICAN ANALYST FOR ONE YEAR.



**PREMATURELY AGING WOMEN.**

THE CAUSE: TOO MUCH WORK, TOO MUCH STYLE,  
TOO LITTLE REST.

We pour life too full and strain the measure. A quart pot will not hold three pints, neither will fifty years hold the concerns of seventy. More than half of a homekeeping woman's time is spent in worrying, and a good share of the other half in preparing food. As though the stomach were the immortal part of us! Take one-quarter of the time a woman devotes to making pies, preparing puddings, putting up preserves, icing cakes and frying doughnuts, and let her devote it to rest and recreation, and she would not look like a shred of parchment paper at forty.

It is the non-essentials that kill us. We must learn to simplify before we can escape the doom of premature age. Nature never intended us to live as we do. If she had meant us to eat puff pastry she would have grown it on some of her trees. She has provided simple food in the shape of cereals, fruits and vegetables, and if we conformed ourselves more closely to her established order of diet, we should be a happier and a harder race. The only thing that is ever going to solve the domestic problem is simplification, and the sooner we begin to simplify, both in the manner of our living and in what we expect of those

who serve us, the better it will be for mistress and maid.

We talk much of the good and faithful servants of two or three generations ago. Did our great-grandmothers require their meals served in courses, and an extra plate for everything from bread and butter through to sauce and cheese? A dinner of fifty years ago was served all in one course, and the mistress helped both in the serving and removal. Now she sits with her toe on an electric bell under the table, and requires as complete a paraphernalia of service as appertains to the house of a grand duke.

**DISINFECTION BY HEAT.**

In the journal of the American Medical Association emphasis is given to the ready means of disinfecting excreta in the sick room, or its vicinity, by the application of heat. Exact experiments show that the thermal death point of the following pathogenic bacteria and of the kinds of virus mentioned is below 140 deg. F., viz.: *Spirillum* of cholera, *bacillus* of anthrax, *bacillus* of typhoid fever, *bacillus* of diphtheria, *bacillus* of glanders, *diplococcus* of pneumonia, *streptococcus* of erysipelas, *staphylococci* of pus, *vaccine virus*, *sheep-pox virus*, *hydrophobia virus*; ten minutes' exposure to the temperature mentioned may be relied

upon for disinfection of material containing any of these pathogenic organisms, excepting the *anthrax bacillus* when in the stage of spore formation. The use, therefore, of boiling water in the proportion of three or four parts to one part of the material to be disinfected is recommended for such material, or, better still, a 10 per cent solution of sulphate of iron or of chloride of zinc, at the boiling point, may be used in the same way, three to one; this, in fact, having a higher boiling point than water, and serving at the same time as a deodorant.

**HE WAS SWINDLED.**—A man sent a dollar for a lightning roach killer, which he saw advertised in a paper, and received by return mail two blocks of wood with directions printed on them as follows:

"Take this block, which is No. 1, in the right hand; place the roach on No. 2, and press them together. Remove the roach and proceed as before."

# KINGSFORD'S OSWEGO STARCH

The Standard of Excellence.

"PURE" AND SILVER GLOSS

For the Laundry.

CORN STARCH

For the Table.

ABSOLUTELY PURE IN QUALITY.

ESTABLISHED 1823.

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DISTILLERY, - Nos. 408, 410, 412 and 414 South St.

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FOR SALE BY

ACKER, MERRALL & CONDIT and PARK & TILFORD.

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CHOICE

## CHICAGO DRESSED BEEF

AND

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are being constantly cured by Robinson's "Sura Cura," a positive antidote for all impure states of the blood. Price \$1, sent by mail. Send for circular.

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## ASBESTOS PORCELAIN.

At a recent meeting of the Paris Academy of Science, Mons. F. Garros described a new material which is designed for employment in the filtration and sterilization of water, wines, vinegar, and similar liquids. It is prepared from the purer varieties of asbestos, the fibres of which are among the finest occurring in nature, whether in the animal, vegetable or mineral kingdoms. These fibres, reduced to powder, yield particles of extreme fineness, and on account of the chemical purity in which the material is often found, foreign particles of larger size are entirely absent. If the powder is not absolutely white, but colored with a yellowish tint, it is washed with dilute acid to remove the oxide of iron which causes the coloration. The powder forms a paste with water, which can be moulded to any desired form. The articles are then dried very slowly by gentle heat, and subsequently fired for seventeen or eighteen hours at a temperature reaching 1,200 degrees Centigrade. The extreme fineness of the pores of this new species of porcelain is shown by the fact that micro-organisms will only penetrate the material to a certain depth, and are not able to traverse the substance as they do in

the case of ordinary porous porcelain. Hence the use as the new material for sterilization. Water containing 1,200 colonies of organisms per cubic centimetre was found to be absolutely sterilized after filtration. After being used for filtration, even for a prolonged period, the asbestos porcelain is restored to its original condition by wiping with a sponge moistened with hot water.

HE WAS RIGHT.—She—How did you like the prima donna this evening?

He—She looked charming—a real angel. She (jealous)—Didn't you see how she was painted?

He—Certainly. Did you ever see an angel that wasn't painted?

A SLIGHT MISUNDERSTANDING.—A stranger (to Biddy at the door)—Is Mr. Jones in?

Biddy—No, Mr. Jones sure is gone on his wedding trip.

Stranger—Oh, I am so sorry.

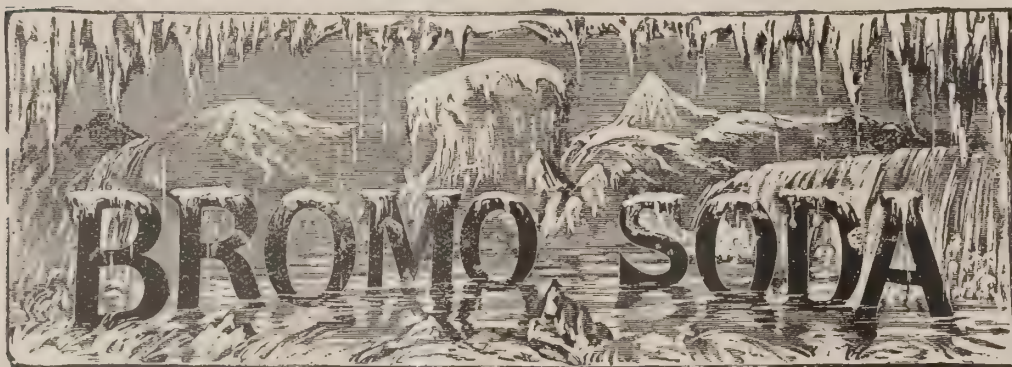
Biddy—Indade, thrue for you, sir! The poor man. Sure you must know the new missus.

A CONSOLATION.—Musical Landlady—Gentlemen, my daughter will practice in the Woerther

FOR THE SPEEDY RELIEF OF

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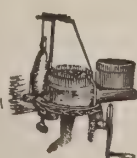
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and knit everything needed in your family, and if necessary knit for others and make money. Sold on installments.

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See this evening. I hope it will not disturb you.

Boarder—Why, no, that is quite a distance away.

A DIFFERENT VIEW.—Father—But, my dear son, it is a shame to have me find you still in bed at noon.

Hopeful Son—Yes father, it is, for me to miss my morning cocktail.

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FOR NURSING-MOTHERS, INFANTS AND CHILDREN.  
FOR INVALIDS AND CONVALESCENTS.  
FOR DYSPPEPTIC, DELICATE, INFIRM AND AGED PERSONS.

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Cataracts, scars or films can be absorbed and paralyzed nerves restored, without the knife or risk. Diseased eyes or lids can be cured by our home treatment. "We prove it." Hundreds convinced. Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.

## PATENTS

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Lemon Building, Washington, D. C.,

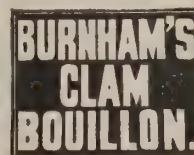
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

AUGUST 15, 1893.

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### TWO SIDES TO EVERY QUESTION.

When a man goes into a jeweler's store and asks how much some article of jewelry in his hand is worth, a careful jeweler will always enquire if it is to buy or sell. So it is with enquiries about men's health. It makes a great difference whether a man is to be physically examined for a pension or for life insurance. Some of our life insurance companies now ask each applicant if he has ever been a pensioner and the purpose of the enquiry has been said to be illustrated by the following true story: A well-to-do business man, in good social standing and in flourishing health, applied recently at the office of a leading institution in this city, for additional life insurance to the amount of \$10,000. The medical examiner could find nothing whatever in the condition of the subject under his hands to indicate the presence of any disease, past or present, and supposed that his company had received a promising new investor, until the enquiry at the head of this article was reached. At that point the applicant stammered and admitted that he was at present drawing, prosperous and healthy a man as he was, a pension of \$12 a month. The medi-

cal examiner drew from him a tangled series of admissions that he had never really suffered an injury or illness entitling him to a pension, but he had made out some sort of a case of nervous shock or deterioration at the instigation of a pension agent, and had taken his twelve dollars a month from the United States Government, rich man though he was, on the principle that "they all do it."

The company refused the risk of insuring a man who had confessedly lied and sworn to his falsehoods for the purpose of securing his pension. This test has so wide an application it appears, that it now regularly appears on the printed blanks of life insurance companies.

### ARE YOU A DOCTOR?

Doctors of divinity are getting to be as thick as blackberries. As supply always equals the demand, the value of the degree of D.D. must be very much reduced. The *Boston Transcript* illustrates this very aptly and wittily in the following:

Now that the colleges have passed commencement day, it may be a profitable venture to take some reckoning on the conferring of clerical degrees. This year has been an unusually good one for D.D. or S.T.D. Every other year has been so characterized by the critical observer. Next year will be the "off" one, and the good crop of the present must supplement its deficiency. We are at liberty to feel that when there is a good supply, there may be a reason for reflection. This degree is not always conferred with wisdom. A Western college, which is nothing more than a girls' boarding school, has been known to confer more degrees within ten years than our universities are in the habit of doing in thirty. We are forced to look beyond the mere degree to the source whence it comes. That really means everything. Still there is no need of being critical over this matter; the spirit of the American is willing to assign some value to a degree, notwithstanding its origin. We have now about 125 colleges in this country and Canada which are annually conferring this degree. It is largely given *causa honoris*. A few institutions require a course of study and the writing of several theses in Greek and Latin, but within twelve years only one minister has been known to present himself for examination, because there is an easy way to get this degree without it. It must not be concealed that certain institutions advertise degrees, and there is a probability about their sale. One clergyman carries with him every degree that flesh is heir to. The colleges have been most considerate of him, but to be really pitted with degrees is no satisfactory testimony of appreciation, when degrees have little market value. Many are given wisely and well, but there is no reason why all ministers should not have them as they enter upon their life work. The degree of B.D. or S.T.B. indicates nothing in the generality of cases except graduation from a theological seminary. The title "Reverend" before a name is merely an adjective, just as "Right Reverend;"

and these terms in the fifteenth and sixteenth century, as anyone can find out by consulting the "Paston Letters," were applied to ladies and gentlemen. The first term was also applied to judges in the seventeenth century. Considering this little bit of history, and the present irregularity about the conferring of degrees, it might be a good compromise to make every minister a doctor of divinity at the beginning of his career and not make him wait for the fluctuations of collegiate pride. The title "Reverend" may be sufficient to designate the class and the present use may not return to that of an earlier century, but with what appears as an indiscriminate use of D.D. by certain colleges it might be advisable to be more generous, as there is no likelihood of ever controlling the judgment of these 125 colleges. The Episcopal Church always makes its bishops doctors of divinity before or soon after consecration. It would be an anomaly to see a bishop with the degree of Master of Arts. What is esteemed an honor for a bishop might easily get down into the ranks of the clergy and allow them the privilege of being called "doctors," along with the fraternity of medicine. It may get this way sooner than we expect, and the gradual distrust of a D.D. degree meaning anything is yearly increased by the imprudence of some colleges.

Where the degree is merited, the recipient is really not honored, because he must be duly conscious of this freedom in its bestowal; and in these days, when ministers go from one belief to another, no one should carry the D.D. of the Universalists into the Episcopal Church, because there is an environment about that degree which should revert to the giver upon change of faith. But there are interminable difficulties about this degree, and the only escape from them is to have no restriction whatsoever, but give the degree to all as the mark of the office and to reinforce the adjective form of "The Reverend."

### NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

M. J. C.: Why is it that the Pepper whiskey sold in saloons does not taste like that I buy by the bottle.

ANSWER.—This question is easily answered. It is because the so-called Pepper whiskey you get in many saloons is the poorest, cheapest trash which dishonest saloon-keepers fill the empty Pepper bottles with. It is an old trick, but one that can only be escaped by buying the article in original packages or of honest dealers. This leads us to add that the idea so frequently advocated by the AMERICAN ANALYST, that goods should be sold in packages and under a brand, is rapidly being applied. Several of the best distillers, who make whiskey that is reliable and pure, bottle the whiskey at the distilleries now. Such are sold in



the original package for family use, and are far more reliable than such goods which are dealt out by grocers generally.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### BANANA CREAM.

Mash four bananas in a bowl, beat them with an egg-beater until light. Whip half a pint of cream until stiff, add it to the bananas with the grated rind of a lemon and a little of the juice. Sweeten to taste. Serve very cold.

#### PINEAPPLE ICE.

Grate the pineapple; allow one pound of sugar to two of fruit. Add one pint of water, and freeze.

#### CLARET JELLY

Soak a package of Coxe's gelatine in a cup of cold water for an hour, then pour on this a pint of boiling water; stir until dissolved, add the juice of a lemon, two cups of sugar, a pinch of mace; strain, add two cups of fine claret; strain again through a flannel bag. Serve with whipped cream.

#### BISCUIT GLACES.

To half a pound of powdered sugar add the beaten yolks of four eggs; flavor with vanilla, beat well, then add two quarts of whipped cream. Color some of this mixture red and spread on the bottom of paper capsules and fill up with the remainder of the cream. Put in a tin box with a cover, and pack well on all sides with pounded ice and salt and let stand for two hours. It is then ready for use.

#### FROZEN TAPIOCA CUSTARD.

Soak six or seven ounces of tapioca in one quart of milk; when soft, boil two quarts of milk sweetened with one and one-fourth pounds sugar; add the tapioca, and let it cook fifteen minutes; then stir in two ounces of butter and eight beaten eggs, and take the custard immediately from the fire; cool and flavor with vanilla, and freeze like ice cream; when nearly frozen, add one cup of whipped cream and beat well.

### HISTORY OF TABLE UTENSILS.

TABLES, CLOTHS, NAPKINS, PLATES, SPOONS, FORKS, SALT CELLARS, ETC.

[Translated.]

How many persons there are who do not know, or at least know but vaguely, that the manner of taking meals has not always been the same as it is at the present time, and that most of our table utensils are of quite recent origin. We shall briefly discuss this subject in speaking successively of all the objects that in our day constitute the equipment of a well-served table.

Let us, in the first place, speak of the table. Everyone knows that the Romans took their meals in lying upon very low couches that somewhat resembled what we call a lounge. When we say that they lay down, our statement is not exactly accurate, since cushions permitted them to change position frequently, for it would have been very difficult for them to abandon themselves to the pleasures of the table in constantly occupying a horizontal position.

When Gaul was conquered by the Romans, the latter introduced their habits into the provinces

subdued by them, and it was not till about the time of Charlemagne that the guests at a repast seated themselves upon cushions around a stand in order to take their meals. At the home of the great, these cushions and stands were relatively elegant as regards decoration. The table made its appearance later on, in the middle ages, accompanied with benches provided with backs, which were placed all around the board. At first, the table was not covered with a cloth, and napkins likewise were unknown. The first that mention is made of were manufactured at Reims, and offered to Charles VII at the time that he was crowned there, thanks to Joan of Arc. They became quite common under Charles V and Francis I.

The Greeks and Romans were acquainted with plates, or rather with a sort of porringer, and yet during a portion of the middle ages people made use of slices of bread cut round, which took the place of plates. This practice is again spoken of in the coronation ceremonies of Louis XII at the beginning of the sixteenth century. After the repast this bread was given to the poor.

The spoon must date back to a very ancient epoch, for, although it is always possible to eat solid food with the fingers—a very ancient and very natural practice—the same is not the case with a liquid or semi-solid aliment, and it is not possible that the famous Lacedemonian black broth was consumed otherwise than with a sort of spoon. Moreover, spoons have been found at Pompeii and in several excavations and notably in the famous treasury of Hildesheim. In a much remoter antiquity, the Egyptians, in the seventeenth century before the Christian era, used spoons for mixing certain powders with beverages. These spoons, of which quite a large number are in existence, were remarkable for their generally fine and very rich ornamentation. The Museum of the Louvre possesses several of them.

The use of spoons in France was not generally adopted until the end of the fourteenth century, but there is a question of this in the will of Saint Remi, who baptized Clovis in 496. The use of the knife is very ancient, and the first that we know of were of hard stone. Herodotus tells us that the knives used by the Egyptian surgeons were likewise of stone. Yet the use of the knife among us as a table utensil does not date back to a very ancient epoch. Although there was a famous cutlery works at Beauvais in the tenth century, it does not appear that the knife was much used upon the table. At this epoch, and for a very long time, the blade was fixed and inclosed in a sheath. It is not two centuries since the use of clasp knives became common. The tables were not provided with them, and each person carried his own. This custom has been preserved in our day in some distant provinces, by old men, who, when they go to dine out, take their knife from their pocket and use it skillfully during the whole course of the meal. Such are evidently exceptions which are daily tending to disappear, yet they serve to show the rarity of the knife, to within a short period, upon the table of persons belonging to the lower classes. The fork was absolutely unknown to the Greeks and Romans, who, for taking their solid food, used their fingers, which they washed in basins. The meats were served cut in pieces of varying size, and each one divided the piece that he had before him as best he could with his fingers.

In the middle ages, the fork appeared only as a curiosity, and the use of it was not as yet the same as that to which it is now put. It was employed for eating fruit or slices of bread and cheese.

We find a few forks figuring in the treasury of John II, Duke of Burgundy; and Galveston, a favorite of Edward II, of England, owned, says a historian of the time, sixty-nine silver spoons and three forks for eating pears with. Again, we find numerous traces of the existence of forks in the middle ages but they were never used for eating meat. At this epoch they had but two tines, and it is from that circumstance that is derived their name of fork.

Henry III was the first to use forks upon the table. He had a certain number of silver ones made, and the use of the article spread very quickly at court. It must be added that such use was regarded as quite ridiculous by the public, as may be seen from the following passage from a satire upon the court of Henry III: "Firstly, they never touched meat with their hands, but with forks, and they carried it to their mouths in bending forward the neck and body upon their seat. They took salad with forks, for it is forbidden in that country to touch meat with the hands however difficult it may be to take, and they prefer that this little forked instrument, rather than their fingers, shall touch their mouth."

Despite the morose criticism that we have just cited, the use of the fork rapidly extended, and the fact must be recognized that it was not without good reason.

Since the remotest antiquity, cups have been employed at banquets for the beverages drunk thereat. They were of metal, more or less precious, according to the wealth of the amphitryon.

In the middle ages, drinking glasses and cups were very rare. They were generally mounted upon a foot or stem, of gold or silver, enriched with precious stones. It was not till the fifteenth century, the epoch at which Venice began to spread abroad her products that the use of glasses became more general, yet in ordinary life people continued for a long time to use tin drinking vessels, which were often of beautiful workmanship and which figured with other utensils, likewise of tin, upon the dressers and buffets of the lords. The custom of setting several glasses before each person for the different wines that are to be served, belongs to the nineteenth century. In the eighteenth century the glass was dipped at each new wine, into small earthenware vessels filled with water and which were placed upon the table within reach of the guests.

The salt cellar dates back to remote times, and that is natural, since the use of salt is lost in the night of time. Homer qualifies it as divine. Among the Greeks and Romans, it occupied the place of honor at banquets. Among the wealthy it was of silver or gold, and was handed down from father to son. Bevenuto Cellini chased some for Francis I, that were of the most exquisite workmanship. There are likewise some beautiful specimens in faience and at the Louvre may be seen those made at Orion for the celebrated set called the service of Diana of Poitiers or of Henry II.

Although salt cellars were likewise made of very common earthenware, Olivier de la Marche tells us that, at ordinary repasts, the salt cellar was often a piece of bread hollowed out to receive the salt, and which was placed near each guest.

As for the caster or cruet stand, which was unknown to the ancients, it has been impossible for us to find out to what epoch it dates back. It is probable, however, that it is not older than the sixteenth century.

Such is the origin of the utensils that are now to be found upon the humblest tables, and it will be acknowledged that a notable progress has been made in the manner of taking one's daily food.



## DYEING.

## GENERAL REMARKS.

Everything should be clean. The goods should be scoured in soap and the soap rinsed out. They are often steeped in soap lye over night. Dip them into water just before putting them into preparations, to prevent spotting. Soft water should be used, sufficient to cover the goods well—this is always understood where quantity is not mentioned. When goods are dyed, air, rinse well and hang up to dry. Do not wring silk or merino dresses when scouring or dyeing them. If cotton goods are to be dyed a light color, they should first be bleached.

## SILKS.

**Black.**—Make a weak dye as for black on woollens; work goods in bichromate of potash a little below boiling heat, then dip in the logwood in same way; if colored in blue vitriol dye, use about same heat.

**Orange.**—For one pound goods—annatto, one pound; soda, one pound; repeat as desired.

**Green**—Very Handsome.—For one pound goods—yellow oak bark, eight ounces; boil one-half hour; turn off liquor from bark and add alum, six ounces; let stand until cold; while making this, color goods in blue dye-tub a light blue; dry and wash; dip in alum and bark dye. If it does not take well, warm the dye a little.

**Purple.**—For one pound goods. First obtain a light blue, by dipping in home-made dye-tub; then dry; dip in alum four ounces, with water to cover, when little warm. If color is not full enough add chemic.

**Yellow.**—For one pound goods—alum, three ounces; sugar of lead, three-fourths ounce; immerse goods in solution over night; take out; drain, and make a new dye with fustic, one pound; dip until required color is obtained.

**Crimson.**—For one pound goods—alum, three ounces; dip at hand heat one hour; take out and drain while making new dye by boiling ten minutes, cochineal, three ounces, bruised nut-galls, two ounces, and cream-tartar, one-fourth ounce, in one pail of water; when little cool, begin to dip, raising heat to boil; dip one hour; wash and dry.

**Sky Blue on Silk or Cotton.**—Very Beautiful.—Give goods as much color from a solution of blue vitriol, two ounces, to water, one gallon, as it will take up in dipping fifteen minutes, then run it through lime water. This will make a beautiful and durable sky blue.

**Brown on Silk or Cotton.**—Very Beautiful.—After obtaining a blue color as above, run goods through a solution of prussiate of potash, one ounce, to water, one gallon.

**Light Blue.**—For cold water, one gallon, dissolve alum, one-half tablespoon, in hot water, one teacup, and add to it, then add chemic, one teaspoon at a time to obtain the desired color—the more chemic the darker the color.

## WOOLEN GOODS.

**Chrome Black.**—Best in Use.—For five pounds goods, blue vitriol, six ounces; boil a few minutes, then dip goods three-fourths hour, airing often; take out goods, make a dye with three pounds logwood, boil one-half hour; dip three-fourths hour, and air goods, and dip three-fourths hour more. Wash in strong suds. This will not fade by exposure to sun.

**Wine Color.**—For five pounds goods, camwood, two pounds; boil fifteen minutes and dip goods one-half hour; boil again and dip one-half hour; then darken with blue vitriol, one and one-half

ounces; if not dark enough, add copperas, one-half ounce.

**Scarlet.**—Very Fine.—For one pound goods, cream-tartar, one-half ounce; cochineal, well pulverized, one-half ounce; muriate of tin, two and one-half ounces; boil up the dye and enter the goods; work them briskly for ten or fifteen minutes, then boil one and one-half hours, stirring goods slowly while boiling. Wash in clear water and dry in the shade.

**Pink.**—For three pounds goods, alum, three ounces; boil and dip the goods one hour; then add to the dye, cream-tartar, four ounces; cochineal, well pulverized, one ounce; boil well and dip the goods while boiling until the color suits.

**Blue.**—Quick Process.—For two pounds goods, alum, five ounces; cream-tartar, three ounces; boil goods in this one hour, then put goods into warm water which has more or less extract of indigo in it, according to the depth of color desired, and boil again until it suits, adding more of the blue if needed.

**Madder Red.**—To each pound of goods, alum, five ounces; red, or cream-tartar, one ounce. Put in goods and bring kettle to a boil, for one-half hour, then air them and boil one-half hour longer; empty kettle and fill with clean water; put in bran, one peck; make it milk-warm, and let it stand until bran rises, then skim off the bran and put in one-half pound madder; put in goods and heat slowly until it boils and is done. Wash in strong suds.

**Green.**—For each pound of goods, fustic, one pound; with alum, three and one-half ounces; steep until strength is out, and soak goods therein until a good yellow is obtained; then remove the chips and add extract of indigo or chemic, one tablespoon at a time, until color suits.

**Snuff Brown.**—Dark.—For five pounds goods, camwood, one pound; boil it fifteen minutes, then dip goods three-fourths hour; take out goods, and add to the dye two and one-half pounds fustic; boil ten minutes and dip goods three-fourths hour; then add blue vitriol, one ounce; copperas, four ounces; dip again one-half hour. If not dark enough, add more copperas.

**Another Method.**—Any Shade.—Boil goods in a mordant of alum, two parts; copperas, three parts; then rinse them through a bath of madder. The tint depends on the relative proportions of the copperas and alum; the more copperas, the darker the tint. Joint weight of both should not be more than one-eighth of weight of goods. Mixtures of reds and yellows with blues and blacks, or simple dyes, will make any shade.

**Orange.**—For five pounds goods, muriate of tin, six tablespoons; argol, four ounces; boil and dip one hour, and add again to the dye one teacup madder; dip again one-half hour. Cochineal, about two ounces in place of madder, makes a much brighter color.

**Purple.**—For each pound goods, two ounces cudbear; rinse goods well in soap suds; then dissolve cudbear in hot suds—not quite boiling—and soak the goods until of required color. The color is brightened by rinsing in alum water.

**Yellow (rich).**—Work five pounds goods one-half hour in a boiling bath with three ounces of bichromate of potassa and two ounces alum; lift and expose till well cooled and drained, then work one-half hour in another bath with five pounds fustic. Wash out and dry.

**Crimson.**—Work for one hour in a bath with one pound cochineal paste; six ounces dry cochineal; one pound tartar; one pint protochloride of tin. Wash out and dry.

**Salmon.**—For each pound goods, one-fourth pound annatto; one-fourth pound soap; rinse goods in warm water, put them into mixture and boil one-half hour. Shade will be according to amount of annatto.

**Dove and Slate Colors of All Shades.**—Boil in iron vessels a teacupful of black tea with teacup of copperas, and sufficient water. Dilute till you get the shade wanted.

## COTTON GOODS.

**Black.**—For five pounds goods, boil them in a decoction of three pounds sumac one-half hour, and steep twelve hours; dip in lime water one-half hour; take out and let them drip one hour; run them through the lime water again fifteen minutes. Make a new dye with two and one-half pounds logwood (boiled one hour), and dip again three hours; add bichromate of potash, two ounces, to the logwood dye and dip one hour. Wash in clear cold water and dry in shade. Only process for permanent shade.

**Sky Blue.**—For three pounds goods, blue vitriol, four ounces; boil few minutes, then dip goods three hours; then pass them through strong lime water. A beautiful brown can be obtained by next putting goods through a solution of prussiate of potash.

**Green.**—Dip goods in home-made blue; dye until blue enough is obtained to make the green as dark as required; take out, dry and rinse a little. Make a dye with fustic, three pounds, logwood, three ounces, to each pound goods, by boiling dye one hour; when cooled so as to bear hand, put in goods, move briskly few minutes, and let lie one hour; take out and thoroughly drain; dissolve and add to the dye for each pound of cotton, blue vitriol, one-half ounce, and dip another hour. Wring out and let dry in the shade. By adding or diminishing the logwood and fustic, any shade may be had.

**Yellow.**—For five pounds of goods, seven ounces sugar of lead; dip goods two hours; make a new dye with bichromate of potash, four ounces; dip until color suits; wring out and dry. If not yellow enough, repeat.

**Orange.**—For five pounds goods, sugar of lead, four ounces; boil few minutes; when a little cool, put in goods; dip two hours; wring out; make a new dye with bichromate of potash, eight ounces; madder, two ounces; dip until it suits; if color is too red, take small sample and dip into lime water and choose between them.

**Red.**—Muriate of tin, two-thirds teacup; add water to cover goods; raise to boiling heat; put in goods one hour; stir often; take out, empty kettle, put in clean water with nicewood, one pound; steep one-half hour at hand heat; then put in goods and increase heat one hour—not boiling. Air goods and dip one hour as before. Wash without soap.

## CLOTTED CREAM.

Henry Stewart gives in his *Dairyman's Manual* the following directions for preparing this summer delicacy:

One of the most desirable uses of cream in its sweet state is for making clotted cream, a delicious article of food, a substitute for butter or a condiment for fruit and pastry. It is made as follows: The milk having stood in shallow pans for twelve hours, the pans of milk are set upon a stove or heater without any disturbance of the cream, and are gradually brought to a heat of 180 deg., at which temperature the cream becomes slightly wrinkled or "crinkled." The pans are then put back into the dairy. In twenty-four hours more a thick solid skin of cream is thrown up, which can be rolled up and lifted off the milk without falling apart. This cream is then sold for immediate use as above mentioned, or is made into cream cheese, or is churned into butter while it is sweet. The butter thus made has a flat, insipid flavor, but will keep good a long time.



## MEDICAL.

## THE LITERATURE OF SEA-SICKNESS.

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NEW YORK.

[From the *Medical Record*, May 20, 1893.]

Sea-sickness as one of the earliest noted, most constant, and most palpable of human infirmities, has a literature which, if not particularly instructive to the practical student, is at least as ancient and comprehensive, and probably more closely associated with the humanities, than that of any similarly unimportant derangement. It is remarkable, then, that the modern writer upon this subject so persistently ignores the record of previous investigation, and usually presents as new theories and suggestions—the outcome of his individual experience and cogitation—many of which are centuries old, and usually have been long since exploded, or found impracticable for general use.

Even the discussion recently inaugurated by an authority no less distinguished in another department of medicine than Dr. Graily Hewitt,<sup>1</sup> is by no means exempt from this reproach. The connection of sea-sickness with visual disturbance was fully discussed by Gilchrist<sup>2</sup> in 1757; by Darwin,<sup>3</sup> 1794; by Miller,<sup>4</sup> 1808; by Bell, Johnson and Maxwell<sup>5</sup> about 1826, again by Allard,<sup>6</sup> in 1829, and subsequently by many others. In a paper published by the writer,<sup>7</sup> in 1881—intended to prove that the etiological method of all motion-sickness, or *kinetia*, was a disturbance of the special function of equilibration located mainly within the semicircular canals of the internal ear—there occurs the following paragraph: "That sea-sickness can exist independently of visual impressions is easily demonstrable; there can be no doubt, however, that these impressions exercise an important influence in some cases. Ordinary visual vertigo depends upon either an exhaustion of the optic mechanism, or a discrepancy between the visual impressions of the moment and the conceptions formed in the central organs of equilibration. In the visual vertigo of sea-sickness there appears to be a discord between the immediate or true visual impressions and a certain visual habit, or visual sense of the fitness and order of things, which passes into consciousness as a distressing feeling of uncertainty, dizziness, and nausea."

Erastus Darwin promulgated the view recently advocated by Dr. Hewitt,<sup>8</sup> that visual disturbances are the principal cause of sea-sickness; and, like him, constructed a swinging apparatus, which, although originally intended for the cure of insanity, was incidentally to be used for "a week or two before going on board" as a prophylactic against sea-sickness. Miller recommended the preparatory exercise of "turning rapidly on one foot," or "whirling in a chair or small bed suspended to a simple machine," etc.; and, that while on board, "the patient should place himself in a horizontal position, shut his eyes, and lie perfectly still." Aronssohn<sup>9</sup> suggests "gradually practicing on an oscillating plank;" and Rey<sup>10</sup> expresses the simple and oft-repeated counsel, "*fermez les yeux et prenez patience*." In 1696 Autenrieth<sup>11</sup> discusses the statement of Adanson<sup>12</sup> that short-sighted persons are, in consequence of their infirmity, less liable to sea-sickness; while James,<sup>13</sup> of Harvard, has argued that a similar immunity existed among deaf-mutes. The experiments with rotatory machines by Crum-Brown,<sup>14</sup> of Edinburgh, and Mach,<sup>15</sup> of Prague have established beyond question the association of vertigo and nausea with perverted visual

impressions the result of motion. Founded upon the theory of visual causation many of the older writers have also recommended fixing the gaze upon some object distinct from the vessel; a plan, however, which would scarcely be applicable during ocean voyages, when, as a rule, there are no such objects in view.

Other somewhat eccentric and inconvenient occupations—such as balancing a glass of water, continuously humming popular airs, and timing one's respirations to the movements of the vessel—have had at various times warm advocates. Many years ago De Cassagnac,<sup>16</sup> having tested the latter method, expresses his disgust: "Mais c'était quelque chose de si odieusement ridicule de m'étudier à devenir une montre de Genève, que je donnai le remède au diable, comme cent fois pire que le mal."

Inventions intended to mechanically diminish motion, and so avoid sea-sickness, have been many, and in a few instances interesting; but, from the "*Ne Flottante*" of Tellier<sup>17</sup> designed to carry trains across the Channel, the Bessemer saloon, the swinging state-room in an earlier White Star steamer, the *Castalia* and even the twin-ship, *Douve-Calais*, down to the *Fauteuil-de-Mer*, of Derotrie,<sup>18</sup> the *Cadras suspendus*, of Pallarin,<sup>19</sup> and innumerable cots, hammocks and patented berths—all have proven more or less failures or been long since entirely abandoned. In the enormously increasing size of the modern ocean steamer seems to rest the only hope from this direction.

Another prophylactic and remedy recently resurrected is the belt or abdominal compress, a device of time-honored celebrity, and long a favorite among French writers. Keraudern,<sup>20</sup> a well known authority, says in 1812: "La compression abdominale paraît donc le moyen le plus sûr de modérer du mal de mer." Fonssagrives,<sup>21</sup> Leicaire,<sup>22</sup> Le Grand,<sup>23</sup> Jobert,<sup>24</sup> of Brussels, and many others have reiterated this opinion. The "*belt of Vasse*" was recommended by Forget,<sup>25</sup> in 1832, about and 1853 Levilly's "*Thalazone*"—a leather belt fitted with steel plates and screws so that pressure could be altered at will—obtained a high but short-lived reputation. Even the versatile Montaigne,<sup>26</sup> relates how "les médecins m'ont ordonné de me presser et cengler d'une serviette le bas du ventre." The admission, however, of the last discover of this procedure,<sup>27</sup> that "the hint was obtained from a gentleman who was previously a martyr to sea-sickness, but now in his frequent journeys across the Channel makes them with comfort and triumph, and, needless to say, with perfect immunity from sea-sickness," has a special interest as recalling the similar observation of the illustrious Bacon,<sup>28</sup> recorded nearly three hundred years ago: "Equidem memini quendam Arglum," etc.; or, as translated in a quaint English edition published in 1638, "I remember a certaine English-Man, who, when he went to Sea, carried a Bagge of Saffron next his Stomach, that he might conceale it, and so escape custome; And whereas he was wont to be always exceeding Sea-Sick; At that time he continued very well, and felt no provocation to vomit."

The value of stimulant and usually in the form of wine, has been noted from early times. In the famous "*Regimen Sanitatis Salernitatem*," supposed to have been written for Robert, Duke of Normandy, by the medical monks of Salerno, about the beginning of the twelfth century, there occur these lines which also possess a peculiar interest although from a literary rather than medical standpoint:

"Nausea non poterit quemquam vexare marina,  
Antea cum vino mixtam si sumpserit illam."

Owing to an oversight of the learned composers, or a mistake of the early transcribers, or possibly an intentional ambiguity because something particularly nasty was intended, it is left uncertain to what the *illam* refers, or exactly what commodity, in admixture with wine, is advised as prophylactic against sea-sickness. As a consequence many of the subsequent editors of this extraordinary work, which has gone through probably not less than two hundred editions, have altered the second line so as to express that which in their individual judgment would seem best for the purpose indicated. Most of the older ones favored sea-water, and hence we find: "Undam cum vino mixtam qui sumpserit ante";<sup>29</sup> upon which rendition the comment of Curionem<sup>30</sup> is practical and amusing: "Nempe, si divites illi fuerint, ut per dies aliquot antequam navem conscendant, vinum suum aqua marina temperent; si pauperes aquam marinam absque mistione bibant!" De Renzi<sup>31</sup> renders the line, "Antea commistam vino qui sumpserit istam," but without explanation. Others recommended some herb not specified, thus: "Si prius hanc vino commixtam sumpserit herbam"; but the French editors<sup>32</sup> almost invariably designate *absinthe*:

Prêt à vous embarquer buvez de vin d'absinthe  
Si du vomissement vous redoutez l'atteinte.

In "The Englishman's Docter, or The Schoole of Salerne, sold at the little shoppe next Clifford's Inne Gate, in Fleet street, 1607," the translator still further elaborates the original *illam*:

"If in your drinke you mingle Rew with Sage,  
All poyson is expel'd by power of those,  
Who would not be sea-sick when seas do rage  
Sage-water drinke with wine before he goes."

Next to stimulants, sedatives and narcotics have been most generally recommended. The bromides, Indian hemp, belladonna, opium in every form, chloroform, chloral, chlorodyne, chloralamid, ether, and almost all similar drugs have been enthusiastically advocated; and no doubt are often useful, especially at the commencement of short voyages. But even in this line of treatment there is nothing new, for in 1772 Boissier<sup>33</sup> remarks, "Sunt qui usum narcotorum septima quavis hora suadent."

In olden times sea-sickness was not regarded as an unmitigated evil, and by many writers<sup>34</sup> was credited with curative influence in consumption, insanity, dropsies, tumors, apoplexy, elephantiasis, and "many diseases of the head, breast and eyes." Even in our own times voyages have been undertaken with the sole object of inducing vomiting; and, in some instances, payment made conditional upon that effect being produced. Few are aware, however, that *Kinetia*, or Motion-sickness has actually been applied as a method of legalized punishment; yet Steinheim<sup>35</sup> says, "I remember having seen in my childhood an old German good natured way of punishing children who had committed small robberies, especially of vegetables and fruits. They were locked up in a small sentry-box hanging perpendicularly on two hinges beneath the eaves of the town-hall, so that it could be turned. The little thief after being shut in was turned by the policeman with the greatest rapidity, until he had given a disgusting spectacle to the laughing mob."

It has often been half-jokingly remarked that the Frenchman's inherent dread of sea-sickness should be classed among England's strongest bulwarks against invasion. In which connection it may be interesting to learn that not only upon the sea but also in warfare on land this Gallic weakness has stood the Briton in good stead. For when, about the beginning of the century, Napoleon contemplated the formation of a dromedary corps for the war in Egypt, General Carbuccia<sup>36</sup>



to whom this duty was assigned, reported the serious disadvantage which would accrue from the swinging gait of that animal causing sea-sickness among the soldiers entering battle!

It is also interesting that of the various forms of motion observed to induce kinetia, the wave-like undulations of earthquake are among the most unfailing. This was particularly noticed during the seismic disturbances which occurred in New England and Maryland about the middle of the last century, and again at the Sandwich Islands in 1868;<sup>87</sup> but is a matter of common knowledge in countries where earthquake is of frequent occurrence.

The writer may scarcely say so, since he too lays claim to having first demonstrated the true pathology of sea-sickness, as well as giving it and similar forms of motion-sickness a new and more rational name (*Kinetia*), and explaining other previously unstudied phenomena connected with sea-voyaging;<sup>88</sup> but, so fragmentary, contradictory, and generally unsatisfactory is the literature of this subject that the casual reader might easily conclude that the aggregate of our present knowledge is still compressible into the original assertion of Hippocrates, that "sailing on the sea proves that motion disorders the body;"<sup>89</sup> while of the remedies suggested not a few recall the oft-quoted reflection of Rabelais, "Oh! que trois et quatre fois heureux sont ceux qui plantent des choux; ils ont un pied en terre et l'autre n'en est pas loin."

1 Brit. Med. Jour.

2 Use of Sea-voyages.

3 Zoonomia, vol. i.

4 New York Med. and Physical Jour.

5 Edin. Jour. Med. Sci. and Med. and Chir. Rev., 1826.

6 These pour le Doctorat, a Montpellier.

7 The Lancet, November, 1881.

8 Brit. Med. Jour., 1892.

9 Union Med., 1860, vol. iii.

10 Nouv. Dic. de Med. et de Chir., vol. xxi.

11 Jour. der Practischen, etc., vol. ii.

12 Voyage to Senegal, 1759.

13 Cambridge, Mass., 1882.

14 Jour. Anat. and Physiology, 1874.

15 Wiener Sitzungsberichte, Nov., 1873, and Med. Centralblatt, 1875.

16 Voyage aux Antilles.

17 Rey: Nouveau Dic. de Med. prat., vol. xxi.

18 Jour. (Med.) de la Soc. Academique (Loire Inf.) vol. xxxvi.

19 Le Mal de Mer. Paris, 1851.

20 Jour de Med., Chir., et de Corvisart, t. xxiii.; Diction. des Sciences Med., t. xxx., 1818.

21 Traite d'Hygiene navale, 1856.

22 Lancet, August, 1853.

23 These a Montpellier, 1814.

24 Compte-rendu des Trav. de l'Acad. des Sciences, lxxx.

25 Medecine navale, 1832.

26 Œuvres compl. Paris, 1836.

27 British Medical Journal, September, 1892.

28 Historia Vitæ et Mortis.

29 Villa Nova, 1480; Joannen Curionem, 1605; Sylvius, 1649.

30 Frankford, 1605.

31 Naples, 1852.

32 Levacher, 1779; Macer, Moreau, et al.

33 Nosologica Methodica.

34 Galen Celsus (Lib. iii. and iv.); Aretæus (de curat phthiæ); Avicenna (Lib. i.); Oribasius (Med. Col. Lib. iv. and vi.); Pliny (Nat. Hist. Lib. xxxi.); Mercurialis (De Arte Gymnastica).

35 Wörterbuch der Medicinischen Wissenschaften, 1843.

36 Fonssagrives: Traite d'hygiene naval. Paris, 1856.

37 Lewis: Phil. Trans., vol. viii.; Michel, vol. xli.; De Varigny, Paris, 1874.

38 Lancet, November, 1881. Influence of Sea-voyaging upon the Genito-uterine Function. New York, 1885.

39 Sec. iv., Aph. xiv.

## PRACTICAL THINKING.

At a meeting of a large medical society in the United States, a gentleman from one of the large centers exhibited an instrument for removing

foreign bodies from the nose. He extolled its advantages, was applauded, and everything promised well. When he had finished, a small, nervous man advanced somewhat briskly to the platform, and began to speak in a sharp style, in terse language, using but few personal pronouns. He said: "Mr. President—Much obliged to the gentleman from the city. Long distance for him to come to show us this instrument; long distance for us out here to send for one. Now, when called to see a child with a cherry or any other kind of stone, or pea, or bean, or button, in his nose, not going to send all the way to the great city for this instrument, and for the professor to come with it—for that is what it means. Can do without both. Wherever there is a boy with something in his nose that has no business there, there is sure to be a woman in the neighborhood; and wherever there is a woman there is sure to be a hairpin. Now, with the boy and his nose with something in it, and the woman and her hairpin, and a live doctor and his jackknife, nothing more is wanted. With the jackknife half-open, bend the double end of the hairpin, coax this bent end along the root of the nose, raise the wrist a little, and withdraw the bent end well down; and if one of the boy's toys is there, it is sure to come. Wouldn't give that instrument [he had made while addressing his audience] for the instrument of the gentleman from the great city, and it don't cost as much money. There is not enough of that in the backwoods for the professor."—*Dr. Hingston in Brit. Med. Jour.*

## THE EFFECT OF "BOLTING" ICE CREAM.

A contemporary answers a correspondent as follows:

There is nothing wrong with the sample you send us. It is perfectly pure and is of delicious flavor. The complaints made by one or two of your customers are by no means unusual at this time of the year. Have you ever considered the effect of eating ice cream very quickly? During the scorching weather you rush into a shop with the avowed intention of cooling your body to at least a few degrees below the melting point. If you are in a great hurry you are apt to take the first few spoonfuls of the ice cream in rather too large mouthfuls. This generally results in a violent pain in the temples or somewhere in the region of the eyes. Did you ever stop to think why this pain arises? It is caused in the following manner:—The frozen mixture, coming in contact with the nerves of the throat—the larynx, pharynx, etc.—temporarily paralyzes them. The sensation instantly shoots to the centre of those nerves, which are in the brain, but finds there a side connection, in the shape of the great facial nerve, which starts from in front of the ear and extends its branches over the sides of the face. One branch of this facial nerve, extending across the temple, is a "nerve of sensation," while the other branches are simply "nerves of motion," utilized chiefly to govern the play of the mouth. This great facial nerve side tracks the pain which proceeds from the chill, throwing it out along the nerve branch which traverses the temple, the pain being most agonizing at the points where the nerve branches. If the irritation be extraordinary, the "reflex" action which takes place may cause a violent pain in the eyeballs, as well as in the temple, the eye pain being simply sympathetic. The person who rashly swallows great mouthfuls of frozen milk should remember that every time it comes in contact with the nerves of the throat, the whole nervous system is injured, to a greater or less extent.

## ADULTERATION.

### BLACK PEPSIN AND BUTTER.

There is probably much useful information in the second annual report of the Dairy Commissioner for the Dominion, covering the year 1891, and copies of which have just been printed and distributed. For instance, it may be important to know that "a cheese box should have at least forty-five nails," but it cannot be said that the number of persons who are interested in the construction of cheese boxes is relatively very large. We do not wish to be understood as saying that no other sort of information is conveyed in this report, or that the number of nails to a cheese box is either the best or even a fair sample of it. But it would try the resources of the most diligent reviewer to extract from this volume matter enough to furnish one popular article of the most modest dimensions. We gather from it, however, that the good work of dairy education is going on satisfactorily, and that is the chief matter after all.

What a contrast between this pretentious report of two hundred pages and the modest slip of cheap paper on which is printed the proceedings of the South Australian Dairymen's Association, held in Melbourne in August last. That is a report worth reading. As we study it we become sensible of an impending revolution. At a meeting of the same association held in February last a member of it, the Hon. Carl Wertz, read a paper in which some astounding claims were put forward. He declared that a gallon of cream treated with black pepsin would produce more than double the quantity of butter than could be obtained from a gallon of the same kind of cream without the black pepsin. He claimed further that the butter so made would be healthier, would taste better, look better, keep better and sell better, than the butter made in the ordinary way. So confident was he of the good results to be obtained from the use of black pepsin in the manufacture of butter, that he requested the association to appoint a committee, one member of which should be an official chemist, to make both practical and analytic tests, with not less than twenty cows and for not less than thirty days, and that the result of the experiment be published to the world. The request was acceded to, and Mr. Wertz himself, Capt. Barton and Prof. Rowell were named as the committee. This committee proceeded with the test and reported at the August meeting, and it is this report we have before us on a modest slip of paper.

On June 3, 1892, the members of the committee began a thirty days' test with twenty cows. The cream in every test was thoroughly mixed, half being churned with black pepsin, and half without. From the half churned without the pepsin during the thirty days there were made 348 pounds and 12 ounces of butter, and from the half tested with pepsin in the proportion of one teaspoonful to each gallon of cream there were churned 884 pounds, 8 ounces, considerably over double the quantity of butter from precisely the same quantity of cream. There were four dollars worth of black pepsin used in making the test. Prof. Rowell's analysis showed that on the average the cream churned during the thirty days contained 12 per cent butter, 10 per cent cheese, 13 per cent sugar, and 4 per cent other salts. Without the pepsin only 15 per cent of these solids was churned into butter, 24 per cent being thrown away in buttermilk, but with the pepsin 37 per cent went into butter and only 2 per cent was lost in the form of buttermilk. The



yield of butter was thus increased by the use of pepsin by 150 per cent. Black pepsin, the report claims, is as harmless as salt. It simply unites all the solids of milk, combining the cheese and sugar with the butter and taking all of these solids out of the milk in the form of the latter. Of this ingredient it is further said that it has only recently been discovered. It is not kept in all the drug stores, although the wholesale houses are supposed to have it in stock. "We conclude our report," say the members of the committee, "by stating that our experiments convince us that the use of black pepsin will more than double the yield of butter. That the butter is more healthful than butter churned in the old way, because it contains all the healthful elements of milk. That it will keep longer, ship better, sell better, and give better satisfaction, than butter churned in the old way. We believe that the use of black pepsin will place many millions of dollars in the pockets of the dairymen, being, in fact, the greatest discovery ever made in the science of butter making." Etc., etc., etc., to borrow the famous and favorite expression of Mr. Joseph Martin's.

Is not this better than the information that a cheese box should have at least 45 nails in it? But alas, there is the taint of fraud to this report. We have made inquiries and learn that black pepsin is not known to the trade in Winnipeg. This, however, might not prove anything as the report admits that it is a recent discovery. But how could they be experimenting with a German drug in Australia for three or six months past, without the slightest hint of the existence of that drug having reached the trade in so wide awake a city as Winnipeg? There is something more than this, however. The report comes to us in an envelope postmarked at a place in Pennsylvania, and with an American postage stamp affixed to it. The computation of gains by the use of pepsin, given in the report, is made in American currency. And it will be observed that the "committee" in their excess of enthusiasm and confidence, claim that pepsin butter will "keep longer" than the other, whereas by their own showing the experiment was not old enough to determine this. Of the two firms advertised in the report as large dealers in pepsin one is a New York house. What the fraud is we cannot exactly make out. If there is such a thing as black pepsin, and if the use of black pepsin will increase the production of butter, the fact ought to be widely circulated; at any rate no harm will come of the knowledge. And if this "report" is simply a device to advertise the drug, the authors of it are welcome to whatever advantage they may be able to extract from this notice.

## MISCELLANEOUS.

### DESTRUCTION OF CITY REFUSE.

I have received at different times applications from the proper authorities of cities in the United States for particulars concerning the disposition of sewerage in England, and I transmit herewith a report on that subject recently printed by William B. G. Bennett, the borough engineer and surveyor of Southampton. I have secured specifications from other cities, but, deeming the Southampton "destructor" the best in England, I waited for this report.

I desire to remark that the system of sewerage here is similar to that in American cities. The authorities have not yet adopted any systems of sewerage-gas consumption, but it is their purpose to do so.

Since the introduction of this system of refuse destruction the vegetation usually seen on the shore immediately approximate to the city has disappeared or changed, and certain kinds of fish which feed upon sewage have become scarce in adjoining waters.

JASPER P. BRADLEY,  
Consul.

Southampton, May 11, 1893.

### SOUTHAMPTON SEWERAGE-PRECIPITATION WORKS AND REFUSE DESTRUCTOR.

Early in 1885 the corporation of Southampton considered it expedient to introduce a more efficient system for collection and disposal of house refuse; and about the same time they found it desirable also to clarify by precipitation the sewage of a particular district of the town, which was being discharged in its crude state direct into the Southampton water at the quay. Having been instructed to devise a scheme for accomplishing these objects, the author proposed the adoption of a refuse destructor for destroying the ash-bin contents and the garbage of the town, and also that the sewage sludge should be transmitted to the destructor from the two existing reservoirs in which it was deposited in the process of clarification. These reservoirs are each 100 feet long and 60 feet wide, and at the lowest end 10 feet deep. Formerly the sewage of a district of the town, amounting to 500,000 gallons in twenty-four hours from a population of about 13,000, for the most part flowed by gravitation into these reservoirs, whence it was discharged into the tideway at low water; while a small portion, coming from a low-level sewer, passed direct into the tideway through iron pipes laid under the reservoirs. The reservoirs act alternately, one being left still for precipitation of the sewage while the other is being filled.

#### PNEUMATIC EJECTORS.

In order to render independent of the tide the discharge of the clarified effluent from the reservoirs, and to raise the low-level sewage into the reservoirs for treatment with the rest, two pneumatic ejectors were erected, both of which are worked by power obtained from the destructor. The smaller, of 360 gallons' capacity, is placed in the east reservoir, below the invert of the low-level sewer, and serves for transmitting the sludge from the reservoirs to the destructor, as well as for raising the low-level sewage; and the larger, of 700 gallons' capacity, is placed in the east reservoir for discharging the clarified effluent into the Southampton water. There is also a third ejector, of 360 gallons' capacity, which deals with the sewage of another district of the town near the destructor works, and is likewise worked by power obtained from the destructor; with an air pressure of 12 pounds per square inch it raises the sewage about 18 feet from a low-level sewer to a higher one. This ejector was formerly worked by an independent steam engine, costing for coal about £120 per annum, which is now saved since the adoption of the destructor.

The sewage gravitates from the sewers through the inlet pipe into the ejector and gradually rises therein until it reaches the underside of the bell. The air at atmospheric pressure inside this bell is thus inclosed; and the sewage continuing to rise outside above the rim of the bell compresses the inclosed air sufficiently to lift the bell, the spindle of which then opens the compressed air admission valve. The compressed air thus automatically admitted into the ejector presses on the surface of the sewage, driving the whole of the contents before it through the bell-mouthed opening at the bottom and through the outlet pipe into the iron rising

main or into the high-level gravitating sewer, as the case may be. The sewage can escape from the ejector by the outlet pipe only, because the instant the air pressure is admitted upon the surface of the sewage the non-return flap valve on the inlet pipe falls on its seat and prevents the sewage from escaping in that direction. As the sewage flows out of the ejector, its level therein falls to that of the cup; and, still continuing to lower, it leaves the cup full until the weight of the stuff in the portion of the cup thus exposed and unsupported by the surrounding sewage is sufficient to pull down the bell and spindle, thereby shutting off the admission of compressed air to the ejector. The compressed air remaining within the ejector then exhausts through an air-escape valve in the top, which is opened by the fall of the cup and spindle; and the sewage outlet non-return flap valve falls on its seat, retaining the sewage in the rising main. The sewage then flows once more into the ejector through the inlet, driving the free air before it through the air-escape valve as the sewage rises; and so the action goes on as long as there is sewage to flow. The position of the bell and cup floats is so adjusted that the compressed air is not admitted until the ejector is full of sewage, and is not allowed to exhaust until the ejector is emptied down to the discharge level.

#### RESERVOIRS.

In each reservoir there is a floating sewage inlet, consisting of a pipe hinged to the larger or effluent ejector and shackled to a buoy; the latter causes the free end of the pipe to rise and fall with the level of the liquid, keeping its mouth, which is covered with perforated plate, a few inches below the surface of the liquid, in order to prevent the entrance of any floating solid matter. Directly the clarification by precipitation has been effected to a certain depth, a valve is opened, admitting the liquid into the larger ejector, whence it is at once discharged into the tideway. A supplementary sewage outlet is also provided in each reservoir for discharging the liquid by gravitation when the tide is low enough. When the whole of the liquid has been thus drawn off, the buoy, resting now upon the floor of the reservoir, keeps the mouth of the inlet pipe high enough to prevent the entrance of any sludge into the larger or effluent ejector; and by opening a valve the sludge is then admitted into the smaller or sludge ejector situated at the lower level, and is transmitted by air pressure through a line of four-inch cast-iron pipe, about a mile in length, to the destructor erected on the Chapel Wharf. An air pressure of forty pounds per square inch is required for working the sludge ejector, and of ten pounds for the effluent ejector.

#### PRECIPITATION.

Ferrozone is used for precipitating the sludge; it is mixed with just enough clean water to make the whole into a stiff paste, which is led through a shoot into a box with perforated sides placed in the sewer. The sewage flowing past washes the ferrozone gradually out of the box, and is thoroughly mixed with it by the time it discharges into the reservoirs at a manhole, 150 feet distant from the box. A small stream of water falling upon the ferrozone prevents it from consolidating. The box is filled three times in twenty-four hours, and this method of dosing the sewage has proved quite efficient and satisfactory.

#### MANURE-MIXING.

On arriving at the destructor the sludge is delivered into a cell, from which it is drawn as required through a valve pipe; and after mixture with road sweepings or sorted house refuse it is



turned out as a good manure, which from the commencement has been readily bought by agriculturists at 2s. per load delivered at the works. On an average, sixty-seven cartloads of ash-bin contents are daily collected and disposed of, the ascertained weight of the load in each cart averaging a little under 17 cwt. The road sweepings are never burnt; to keep pace with the demand, the sludge is run into bays made of the road sweepings, and is also filled in with them. The quantity of road sweepings thus utilized amounts in twenty-four hours to about eight tons. Arrangements were provided at first for burning the sludge, for which purpose it was discharged into a tank on the floor of the destructor and drawn out through ports in the front, opposite the feed openings of the firing chambers, where its moisture is absorbed by the ash-bin contents, which were backed up against the ports with this object; and the mixture was then raked into the fires. Large quantities of sludge were thus destroyed; but the process has since been discontinued, owing to the ready sale of sludge when prepared for manure.

#### DESTRUCTOR.

The refuse destructor has six chambers or furnaces, each capable of burning 8 to 11 tons of garbage per day. The products of combustion pass through a 30-horse-power multitubular steel boiler in the main flue into a furnace shaft, which is of circular brickwork, 160 feet in height from the ground line, 6 feet inside diameter at top and 7 feet at bottom. The shaft is constructed upon a pedestal 14½ feet square and 24 feet high, of brickwork 3 feet thick, and thence upward in four sections, of which the first is 27 inches thick and 30 feet high, the second 22½ inches thick and 30 feet high, the third 18 inches thick and 38 feet high, and the fourth 14 inches thick and 38 feet high. The first 30 feet (of this shaft) is lined with fire-

brick, and behind the lining is a cavity 4½ feet wide, which is ventilated by apertures to the outside of the shaft. The foundation is loamy clay, upon which is laid a bed of concrete 30 feet square and 10 feet thick. The footings commence at 23 feet 2 inches square, and step off in regular courses upwards to 15 feet square at a height of 6 feet. The concrete was filled in continuously until completion. The pedestal was then run up and allowed to remain for nearly three months during the winter, after which the work was proceeded with until completion, occupying about six months more. The cap is white brick in cement, with a string course about 20 feet below the top. Foot irons are built inside in a winding lead up to the top. The shaft is provided with a copper-tape lightning conductor, with iron rod and crow's-foot 7 feet above the cap; the tape is about 215 feet long, the bottom end being carried into a well. In August, 1888, the shaft was damaged by lightning, but was easily repaired, owing to the provision of the foot irons built inside it. At that time the shaft was plumbed, and was found to be quite vertical. The fires were only damped down during the repairs, which occupied about eight days. With the exception of this interval they have been constantly burning for nearly six years. The repairs have been almost nil. There is also a by-pass from the destructor to the shaft for enabling the burning process to be continued when the boiler in the main flue is not required or during cleaning and repairs. No obnoxious fumes from the combustion have been perceived.

#### STEAM POWER.

The steam generated in the boiler is employed for driving a pair of engines of 31½ indicated horse power, which compress air into two large receivers at Chapel Wharf, whence it passes through a 5-inch main to the town quay, where it is automatically supplied to the ejectors when re-

quired for working them. The air also serves for driving the precipitated sludge through the 4-inch main from the reservoirs to the destructor, for which purpose the air is led by a pipe from the receiver at Chapel Wharf to the head of the main at the town quay. A 6-horse-power engine, used in connection with the machinery for the preparation of fodder for forty horses at the corporation stables, is also driven by steam from the same boiler that supplies the air-compressing engines.

#### UTILIZATION OF SLUDGE AND REFUSE.

All obnoxious matters are collected throughout the borough in covered iron tumbler-carts of 2 cubic yards' capacity, which go up the inclined roadway approach to the destructor and discharge their contents into the firing chambers. The road sweepings are frequently discharged into a hopper over an incorporator driven by a small engine and are mixed with the sludge as required; this is generally done in wet weather. The residue from the continuous day and night combustion consists of about 20 per cent of good, hard clinkers and sharp, fine ashes. The clinkers are used for the foundation of roadways and the manufacture of paving slabs; the latter have already been used in paving several footpaths of the town and the new public baths at a cost of 2s. 6d. per square yard. The fine ashes are also employed for making mortar, with which the stables and swimming baths have been erected, and for many other purposes. The mortar is also sold to builders at 7s. 6d. per cubic yard.

[To be continued.]

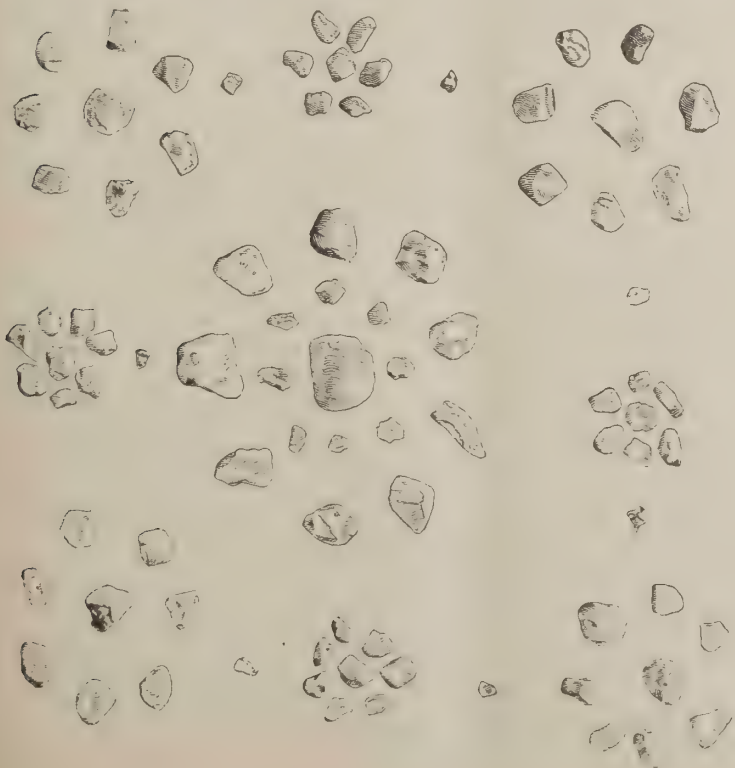
#### ALONG THE HUDSON RIVER.

The charming scenery, the rare freshness of the country air, and the boundless attraction of the Hudson River towns will doubtless attract the usual multitude of summer comfort seekers, during the coming season. The New York Central runs through the heart of this choice section, and its facilities for the summer traffic will be unsurpassed.—*Brooklyn Eagle*

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## A SERIOUS FORECAST.

Students of planetary influences upon our mundane weather, make bold to affirm that this is going to be an exceptional and remarkable year, by reason of its frequent violent meteorologic disturbances and generally unsettled conditions. Our spring certainly has been abominable and we are promised that the summer will be a good pair for it, abounding in periods of excessive and distressing heat, violently alternated with cold storms and furious winds. And both seasons will seem pleasant by comparison with autumn when it sets in, while winter is to be worst of all. In no aspect are these weather probabilities more disagreeable of apprehension than in the certain effects—if they are realized—upon the general health. Even without any epidemic visitation of contagious disease, such as we are likely to have, such a year would be one of fearful mortality among the old, weakly, and those who have enfeebled vitality generally. A system capable of repelling, or even throwing off disease, under ordinary climatic and meteorologic conditions, would be likely to succumb under the unnatural depression of long continued bad weather and the shocks to the nervous organization inevitable from sudden and violent alterations in temperature. It is therefore a matter of proper prudence for every one to as speedily as possible bring his vitality to the highest point of which it is capable and maintain it there when once that desirable

## Delicious Drink.

### Horsford's Acid Phosphate

with water and sugar only, makes a delicious, healthful and invigorating drink.

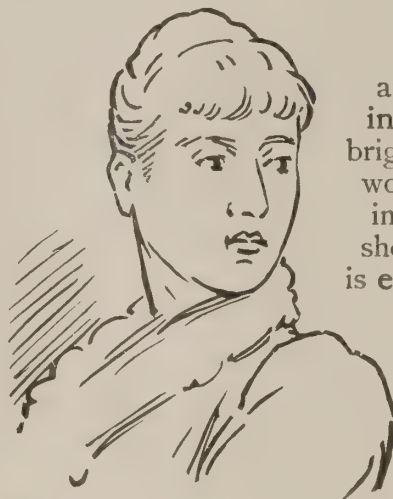
Allays the thirst, aids digestion, and relieves the lassitude so common in midsummer.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me. As a beverage it possesses charms beyond anything I know of in the form of medicine."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.



**Beware**  
*send it back.*

Peddlers and some unscrupulous grocers will tell you, "this is as good as" or "the same as Pearl-ine." IT'S FALSE—Pearline is never peddled, if your grocer sends you an imitation, be honest—JAMES PYLE, New York.

## Look Around

and see the women who are using **Pearline**. It's easy to pick them out. They're brighter, fresher, more cheerful than the women who have spent twice as much time in the rub, rub, rub, of the old way. Why shouldn't they be? Washing with **Pearline** is easy.

And look at the clothes that are washed with **Pearline**. They're brighter, and fresher, too. They haven't been rubbed to pieces on the washboard. They may be old, but they don't show it. For clothes washed with **Pearline** last longer.

condition has been attained. To keep health, once it is gained, is comparatively easy. One has only to live rightly, with due regard for diet, exercise and cleanliness. But to make health take the place of disease is not so easy. For that, one must aid nature, particularly in a year like this. Sluggishly acting vital organs must not be simply temporarily stimulated, but cleansed, strengthened, vivified—in fact, regenerated. And the blood, upon the purity and richness of which the whole animal economy depends, must have expelled from it the foreign matters poisoning it, the effete particles which are the waste of the system, the fibrin taken up by perverted organs of assimilation, and the specific secretions of the liver and kidneys which, diverted by disease from their natural course, find their way into the life-current. It may even contain the germs of hereditary or infectious diseases, always dangerous, but doubly so in a time like this. The only medicine capable of performing the all-important service of thoroughly purifying the blood and through it restoring health and strength, for the performance of their several functions, to the vital organs, is Ayer's Compound Extract of Sarsaparilla. In it are combined in most effective proportions all the "alteratives" held in high esteem by the medical profession, particularly Honduras sarsaparilla, the variety richest in medicinal qualities. And the methods by which they are prepared and combined, with none of their volatile principles dispelled by heat and with conscientious application of extremest care and the highest scientific skill, endows them with a potency and certainty of operation which is not even approximated by any other alterative medicine offered to the public or known to the medical profession. With all its power, Ayer's Compound Extract of Sarsaparilla is a medicine perfectly safe for administration, in prescribed doses, even to infants.

### BEWARE OF OINTMENTS FOR CATARRH THAT CONTAIN MERCURY,

As mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is ten fold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally, and made in Toledo, Ohio, by F. J. Cheney & Co.

Sold by Druggists, price 75c per bottle.

A BIBLICAL ANSWER.—Teacher—Now, Lizzie, how can one tell an apple from a pear tree?  
Lizzie—By their fruits.

Fine Table  
Wines  
From our Celebrated Orleans  
Vineyard.

Producers of  
the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

#### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Sève of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.



## SARDINE FISHERY OF BRITTANY.

The catching and preservation in oil of the sardine is one of the most important industries of Brittany. Along the coast from Les Sables-d'Olonne (Vendée) to Camaret (Finistère) there are about one hundred and fifty canning factories. During the sardine fishing season, which lasts about five months, 2,500 boats, equipped with from 12,000 to 15,000 sailors, are employed. The employes of the factories number about 10,000 women and children and from 1,500 to 2,000 men. The annual expenditure for labor, material, etc., amounts to about \$3,875,000.

This industry originated at Nantes in the year 1834, and the best brands are still those of that city. These brands are imitated in Spain and Portugal, but are of inferior quality, owing to the use of Spanish, instead of Italian, oil.

## METHOD OF CATCHING THE FISH.

The sardine is a migratory fish which first appears on the coast of Africa, passing northward in large shoals, following the coast of Portugal, crossing the Bay of Biscay, and striking the coasts of Vendée in the month of April or May. Here the sardine is met by fishermen stationed at the seaport town of l'Isle-d'Yeu, and in the bays of the Sables-d'Olonne and of Saint-Gilles, who assemble from all parts of Brittany and follow the fish toward the North, retarding its progress with a special bait called "roque."

Before daybreak the fishing boats leave port to search for the shoals of sardines; many leave in the evening and anchor at sea. When a peculiar bubbling of the water reveals the fish, the nets are immediately thrown. Each net is from 900 to 1,000 yards in length, about three yards in width, and black in color. On the upper part of the net are cork floats, on the lower part leaden sinkers to keep the net in an upright position.

The oarsmen, generally two in number, row always either against the wind or the tide. One man casts the net as the boat advances, while another throws the "roque" into the water. This bait is an important feature of the sardine catch, as it is quite expensive, and fishermen often lose a considerable quantity. It is made of the eggs of codfish or mackerel mixed with clay and costs from \$7 to \$17 per barrel. That made of mackerel eggs is superior.

This bait is thrown into the water in small balls, which slowly dissolve and sink.

At nightfall the boats return to port, where they sell their fish to the canners at prices varying according to the abundance of the catch and the size and freshness of the fish. Sales are made by the "thousand," but this term does not always indicate exactly a thousand sardines. For example, at Belle Isle 1,240 fish make a thousand. Factories for preserving sardines are located at all the ports, for the fish spoil easily and can not bear transportation. The fishermen convey the sardines to the factories in baskets.

## PROCESS OF CANNING SARDINES.

The sardines are spread on floors and salted and the heads removed. They are then thrown into brine, where they remain half an hour. They are next washed in clear water and dried on screens. This work is done almost entirely by the wives and children of the fishermen, their united wages during the fishing season enabling the family to subsist during the following winter.

After the fish have been thoroughly dried they are cooked by dipping them for a few minutes in oil heated to 100 deg. C. (212 deg. F.). They are again drained and handed over to workmen, who pack them in small tin boxes, which are filled with pure olive oil and then soldered. The oil

used is imported from the province of Bari, Italy. The boxes are next thrown into hot water, where they remain from two to three hours, according to the size of the boxes. When withdrawn the boxes are first cooled, then rubbed with sawdust to cleanse and polish them, and packed in wooden cases of one hundred boxes for shipment.

During their immersion in the boiling water oil will escape from all boxes not properly soldered. In such cases the loss is sustained by the solderer. A good workman rarely misses more than two or three boxes per hundred.

A quality of sardine called "boneless sardines" is prepared especially for the New York market by factories at Concarneau and Douarnenez. Their preparation requires special care, and they command a high price.

Sardines in oil are sometimes mixed with truffles. They are also prepared with tomatoes and sent in small quantities to the New York market, but the chief export in this form is to Mexico. Sardines are also preserved in butter and in vinegar. Sardines preserved in butter are good; but, as the butter is generally of inferior quality, it is necessary to remove it from the sardine before serving. Another inconvenience is that the box must be heated to melt the butter, so that the sardine can be removed entire. Sardines preserved in vinegar require to be washed before using. The addition of oil renders the fish more palatable, though the sardine retains the taste of the vinegar and its flavor is partly destroyed.

## EXPORTS OF SARDINES IN OIL TO THE UNITED STATES.

A large quantity of sardines in oil, as a rule of good quality and medium size, is exported to the United States. They are generally put up in quarter boxes, designated as *quart bas* and *quart américain*. The *quart bas* contains from ten to twelve fish; the *quart américain* from twelve to eighteen. The exports by the canners during the year 1892 were as follows:

Nantes .....	\$334,630.02
Brest.....	28,664.01
L'Orient.....	62,854.33

Total..... 426,148.36

These figures do not represent the actual exports, for many canners sell to commission houses at Paris, Bordeaux, Havre, London, etc., who ship to the United States and other countries.

## MARKET PRICE.

The average prices for the past five years are as follows per case of one hundred boxes: *Quart bas*, \$6.75; *quart américain*, \$9.65. These prices are paid for goods delivered free of charge at Havre or Bordeaux on presentation of bill of lading accompanied by consular certificate.

Sardines are usually sent via Havre to New York. The Compagnie Générale Transatlantique charges \$7 per ton and the American-Hamburg line about \$6. From Bordeaux to New York the Compagnie Bordelaise charges \$7 per ton. Shipments are also made by the Harrison line via Liverpool at rates somewhat below the above figures, but the accommodations of this line are inferior.

H. DE SALLIER-DUPIN,  
Consul.

Nantes, April 29, 1893.

Tommy—Papa, the papers the other day said you were "slated for a government job." What does that mean?

Papa (who had failed to get the job)—It means, my son, that I was ready for some political ponce to come along and wipe me out.

## BUSINESS NOTES.

## SLICED SMOKED BEEF.

Many people dislike smoked beef for the simple reason that the kind that most people find at the grocers' is tough and stringy. This, however, is not true of all smoked beef. Every packer has smoked beef of different qualities, with corresponding prices. Most grocers buy only the cheapest, which is naturally the toughest, finding that they can sell it at just as high a figure as the best. They actually depend upon the fact that people have been taught that all smoked beef is tough. This is not so, however. Messrs. J. W. Beardsley's Sons, of New York, put up in cartons a sliced smoked beef which is juicy and tender. Ask for this brand and you will have a revelation of what good smoked beef is. It is all due to the experience and selection of the goods they put up under their brand. All grocers keep it.

## HOUSEHOLD NEWS.

The August number of *Household News*, Mrs. Roter's new magazine, comes to us heavily laden with good things. The reading space is materially increased to allow some of the departments a better representation.

The Bills of Fare for August are very tempting. The departments are all full of interesting and valuable information, calculated to enhance the value of the magazine.

## Good Cooking

is essential to

## Good Digestion—

in pastry you cannot have either without a good shortening. Lard has always had very objectionable features, causing indigestion and many other dietetic troubles. Science has come to the assistance of the cook, and of weak stomachs, with the new shortening,

## Cottolene

It is composed of the choicest beef suet and highly refined vegetable oil, in many respects as good as the finest imported olive oil. Physicians endorse it, cooking experts recommend it, and thousands are now using it in preference to any other shortening. Refuse all substitutes.

Send three cents in stamps to N. K. Fairbank & Co., Chicago, for hand some Cottolene Cook Book, containing six hundred recipes, prepared by nine eminent authorities on cooking. Cottolene is sold by all grocers.

Made only by

**N. K. FAIRBANK & CO.,**  
Chicago, St. Louis, Montreal, New York, Boston, Philadelphia, San Francisco, etc.



## HOW TO CARE FOR SHOES.

The following suggestions for caring for shoes will appeal to the thrifty and dainty:

In the first place, as soon as you come in from bad weather take off your shoes and fill them with dry oats, which will quickly absorb all the moisture and prevent the leather from losing its shape. Be particularly careful not to put your shoes near the fire.

The next day take out the oats, which may be dried and made to serve again. If you do not like the idea of using oats, stuff your shoes with fine paper, which answers the same purpose.

Paraffine will soften leather which has been hardened by water and restore its suppleness. A mixture of cream and ink is an excellent thing to rub on ladies' fine kid boots.

To keep your shoes from creaking, rub the soles with linseed oil. You may do this more thoroughly by letting the soles rest on a dish containing a little of the oil, which will be absorbed by the leather, and, in addition to stopping the creaking, will make the shoes impermeable to snow and water.

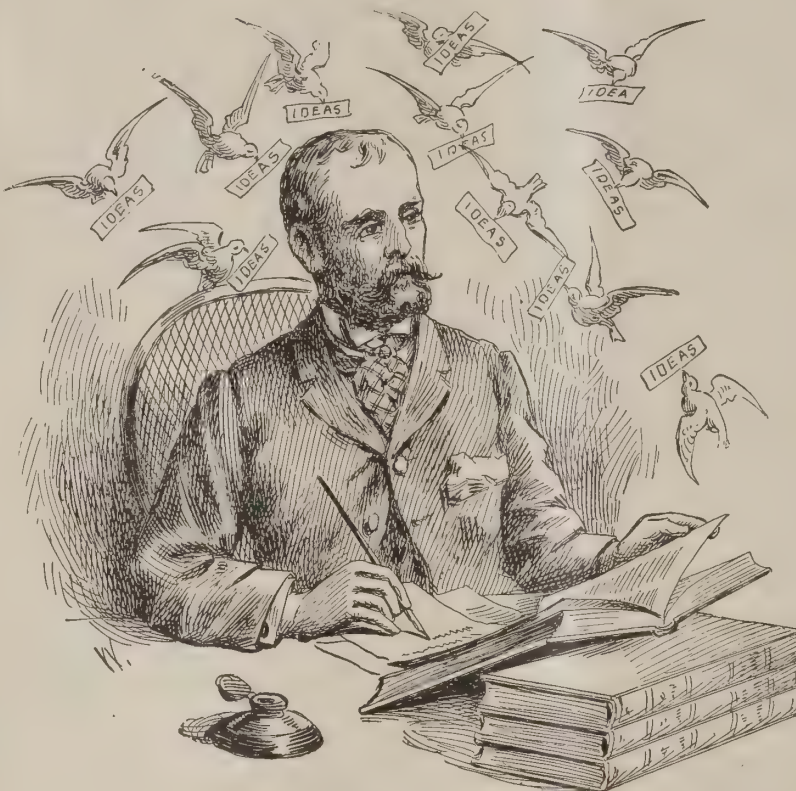
Another way to keep out water is to heat the soles slightly, then rub them with copal varnish and let them dry. Repeat this operation three times, and you can go into the wet with impunity.

## THE CARE OF GLOVES.

Very few people take proper care of gloves. They are slung on and wrenched off, and done up in unpleasant-looking little wads, and then are expected to perform all their uses and give satisfactory wear. A pair of the finest French kid gloves will not long endure such treatment, nor one of the coarsest leather or cotton. A great deal depends upon the way kid gloves are put on at first. They should be drawn on slowly and easily, the fingers being put on first, and then the glove drawn over the palm and buttoned around the wrist. If the glove is carefully drawn off the palm first, each time it is worn, then the fingers, one by one, it will last much longer. After removing them, pull the gloves into shape, and lay them in tissue paper in a long glove box. Do not let the gloves lie together. Notice when taking them off if they need mending or have become soiled; a slight soiled spot may be readily removed by rubbing it lightly with a piece of flannel wet with benzine. Do not, however, attempt to clean gloves by saturating them with benzine. This removes the dressing and they will not keep clean long enough to pay for the trouble, while an inevitable odor clings to them. It is better, if the gloves are much soiled, to invest the trifling amount charged by professional cleaners for doing this work, and have it properly done. It is next to impossible to insert a piece of kid in a glove and have it look properly. Most gloves are now stitched by machinery, in such a way that any different stitch shows. The best way of mending a slight break in kid is to lay under it a piece of silk as near the color of the kid as possible—a piece of kid would be too clumsy. Catch the silk down by invisible stitches, and draw together the rent with darning stitches, which should be as nearly invisible as possible. Silk or fine cotton gloves are liable to become stretched with wear. After they have been in use for awhile, therefore, it is a good plan to turn them inside out, and sew over the seams, taking them in a little, and they will then fit the hand as they did at first, and are not likely to stretch any more.

The lazy man aims at nothing and generally hits it.

## A WHOLE FLOCK OF IDEAS.



It was a favorite saying of Benjamin Franklin that if he obtained but one idea from a book he considered himself well repaid for his investment.

There is a silent but potent missionary that not alone suggests ideas to men, but tells them what the thinkers of all time have done with those ideas.

A missionary that represents the very fountain-head of all knowledge, that unlocks the secrets of nature and "chains the elements to our chariot wheels." This missionary is the justly celebrated **REVISED ENCYCLOPEDIA BRITANNICA**, and it appeals to every human being who can read.

If you have any special bent or inclination for any particular branch of knowledge, open the **REVISED ENCYCLOPEDIA BRITANNICA** and ideas will flock to you. If you are young, with your life before you, it will furnish you with ideas to advance your business interests and to make you a more useful member of society.

If you are a tired bread-winner, it will amuse and enliven you with stories of travel, with quaint and beautiful mythological legends, and with the facts about animals and flowers.

It is never wearisome, and it lasts a lifetime. It is Cosmopolitan and Democratic—for it makes no distinction between the rich and poor, except to say to the latter, "I am yours almost for the asking."

## ONLY 10 CENTS A DAY IS REQUIRED.

On receipt of only **One Dollar** we will forward to you, charges prepaid, the entire set of **TWENTY** volumes, the remaining \$9.00 to be paid at the rate of 10 cents a day (to be remitted monthly). A beautiful dime savings bank will be sent with the books, in which the dime may be deposited each day. This edition is printed from new, large type on a fine quality of paper, and is strongly bound in heavy manilla paper covers, which with proper care will last for years. Bear in mind that the entire 20 volumes are delivered to your address, with all charges paid to any part of the United States.

This special offer is made only to the readers of the **AMERICAN ANALYST**, and will remain open for a limited time only.

Cut this out and send to **AMERICAN ANALYST, 19 Park Place, New York.**

**ANALYST PUBLISHING CO., N. Y.:**

Please deliver to me the entire set of 20 volumes of *Revised Encyclopedia Britannica*, as above described, together with your *Dime Savings Bank*, for which I enclose *One Dollar*, and further agree to remit 10 cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

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THIS INCLUDES A PAID SUBSCRIPTION TO THE  
AMERICAN ANALYST FOR ONE YEAR.



## BOCK BEER.

From Munich, the city of beer and beer drinkers, a German historian has announced a discovery of interest to the beer drinkers and philologists of the world. In a chronicle of the Bavarian capital, written between three and four centuries ago, he has found the early record of bock beer and beer brewing in Munich. At the beginning of the sixteenth century a young princess of the Munich court was sent off to Russia to marry the heir to the Russian throne. She was so averse, however, to the dark and morose crown prince, that after many days of hysterical indecision she cut loose from him abruptly and left with her suite for home. She became ill on the way, and was obliged to stay at Einbeck, famous for producing the best beer in Europe. As German doctors do now, so her doctors did then, and recommended the best beer as the best tonic. She followed their recommendation and recovered. When she appeared in Munich again her suite had been increased by the addition of an Einbeck brewer. The princess at once had the court brew-house built near the royal residence, and there it still stands, giving to the world the matchless Hofbrau as it first gave it under the management of the princess' imported Einbecker. The house was near the outer walls of the city then, and not

far from a gate known as the Cos Gate, after the Cos beer, the finest of Einbeck beers, which derived its prefix from the abbreviation of the names of its distinctive superiority in color, odor and savor. Cos beer was brewed but once annually and was drunk in May. But at the beginning of this century Cos beer was manufactured so much more than any other Einbeck beer in Munich that in ordering it a person usually called simply for "Einbeck," which soon became corrupted into "Einbock" and this became "ein Bock," just before the revolution of 1848-9. So a bock or goat was made the symbol of the famous brew, which originally had as little real or figurative connection with a goat as Einbeck had.

Russell Sage has for some years been in the habit of giving five dollars once a year to a friend of his boyhood days. This year, when the pensioner made his annual visit, Mr. Sage was unable to find five dollars in his roll of bills, and was on the point of putting his old friend off, when the latter exclaimed:

"But I am in more desperate need of money than ever before, Mr. Sage. Why not give me one of those ten dollar bills?"

"Well, I never thought of that," replied Mr. Sage in a matter-of-fact way. "Here, you take this ten dollars and give me a receipt for two years."—*Argonaut.*

## A DELICIOUS DRINK.

Horsford's Acid Phosphate. For a right good and lasting cool drink, take Horsford's Acid Phosphate with ice-water and sugar.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me. As a beverage it possesses charms beyond anything I know of in the form of medicine."

Dr. J. C. How, Haverhill, Mass., says: "I have seen great benefit from the steady use of this preparation, in cases of chronic wakefulness."

THE POETIC VS. THE PRACTICAL.—Mrs. Suburban (a June bride)—Ah, darling, how sad it makes one's heart to walk through these dead and falling leaves; across these lately verdant fields! To know that the beautiful, glorious summer is past and the cold, dreary winter is upon us!

Mr. Suburban—Yes, and coal six dollars a ton.

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"PURE" AND SILVER GLOSS

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For the Table.

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CHICAGO, ILLS.

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are being constantly cured by Robinson's "Sura Cura," a positive antidote for all impure states of the blood. Price \$1, sent by mail. Send for circular.

R. W. ROBINSON & SON,

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## SIGNIFICANCE OF FLY-BITES.

We have now reached that point in the yearly circle at which, if at any time, might have been expected a continuance of warm weather. One sure earnest of summer heat (despite the recent rains, and, it may sincerely be hoped, merely temporary chilliness of northerly winds) has long been present with us in an increase in the numbers and activity of the household fly. It may appear fussy and unphilosophical to fret over this petty trouble, but we should be more than human if our patience were proof against its constant and obtrusive attentions. The sick especially have reason to complain of the annoyance it causes them. Happily, however, they are not quite without resource. The muslin fly-curtain or head-covering, the hand-switch, the fan, and a variety of other contrivances attest the practical ingenuity which has been enlisted on their behalf. Not least effectual, though as simple as it is generally unobjectionable, is the device of suspending a glutinous cord above the head of the invalid. Comfort, however, is not the sole object aimed at by the treatment of the fly plague. The part played by insects in the inoculation of living germs has long been recognized, and it should be

remembered that even the house fly, notwithstanding the weakness of its mandibles, is not incapable of taking a share in this work. In the *Lancet* of June 18 we showed how easily the fatal effect of the sting of a gad-fly might thus be explained. It is also a fact familiar to beekeepers that the sting of the bee varies in severity under different conditions. May this not be attributable to the previous surroundings of the insect? We may also glean from the fact an implied lesson as to household cleanliness, and as to the necessity of treating by suction, poultices, or other convenient methods even so slight a matter as an irritable fly-bite.--*London Lancet*.

Teacher—What are marsupials?

Boy—Animals which have pouches in their stomachs.

"And what do they have pouches for?"

"To crawl into and conceal themselves in when they are pursued."

"I don't know whether to be a preacher or a lawyer."

"By all means be a lawyer."

"Why?"

"A lawyer gets \$500 for untying a knot the minister is paid only \$10 for tying."

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and knit everything needed in your family, and if necessary knit for others and make money.  
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Witness—He looked me straight in the eye and—

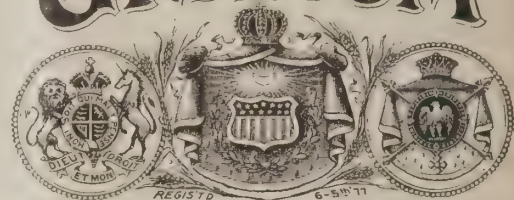
Lawyer—There, sir, you've flatly contradicted your former statement!

Witness—How so?

Lawyer—You said before that he bent his gaze on you, and now you'll please explain how he could look you straight in the eye with a bent gaze.

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**IMPERIAL GRANUM**



**PURE, DELICIOUS, NOURISHING FOOD**

IS UNRIVALLED IN THE SICK-ROOM

THE SAFEST FOOD FOR INVALIDS

AND CONVALESCENTS. FOR NURSING MOTHERS.

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FOR DYSPEPTIC, DELICATE INFIRM AND AGED PERSONS.

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## PATENTS

**GEORGE E. LEMON,**

Lemon Building, Washington, D. C.,

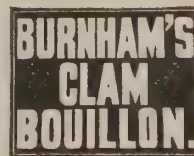
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## NURSING MOTHERS

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Never Buy Clam Bouillon for the sick, except in Glass Bottles.

Grocers and Druggists  
25c., 50c. and \$1.00 sizes.



# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

SEPTEMBER 1, 1893.

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### DANGER OF THE FLY.

The AMERICAN ANALYST has on several occasions pointed out various ways in which the common house fly can be the source of the most imminent danger.

It will be remembered that a few months ago the private secretary of Parliamentary Leader Arthur James Balfour died of the bite of a house fly. The animal had, beyond question, been feeding on putrid matter and inoculated the unfortunate gentleman with its virus. Among inhabitants of the tropics it has long been a firm belief that flies are disseminators of disease, though their mode of infection was not understood. This question has been set at rest as to certain diseases at any rate by the classical researches of a Russian physician, who fed flies on substances containing disease germs and found that these passed through the intestines with unimpaired activity and virulence.

Our own Dr. Sternberg has written upon the

subject, and a paper containing observations on a large number of cases has been contributed to the *New York Medical Journal* by Dr. Chmieleck of Detroit. The last refers specifically to cholera infantum, and although addressed to the medical profession, appeals equally to the lay public and incidentally to the health authorities. The cases were observed in New York tenement houses. The writer observed that the flies with which these dwellings swarm had free access to all sources of filth, including the products of disease itself; also that their access to the sugar bowl was equally free. He found the contents of the bowl to be often gray in color from the visits of the flies.

Sugar is continually used in feeding infants and very young children, and often enters into the preparation of their medicines. Without going into the details of the treatment, it may suffice to say that the cutting off of all sugar, with the substitution of glycerine in its place, wrought substantial and most salutary results. This was only auxiliary, of course, to the usual treatment in assistance of nature. The record of 117 cases with only three deaths appeals to the plainest understanding. The further statement that there was in these cases hardly any medication, and in some cases none at all, is one that appeals equally to the most approved principles of modern practice.

But there are some further statements in another paper contributed to the same journal that place upon the health authorities a grave responsibility which is now fully recognized by them. It has been the practice to permit butchers' refuse to accumulate at the shops till a state of putridity was reached, the effluvium from which has been literally overpowering. This material, rank with ptomaine poison, is fed upon by the flies. It was from some such substance that the fly which killed Mr. Balfour's secretary derived its poison. The same offal is alive with micro-organisms, some species of which are likely to be of the disease breeders. Dead animals have been left in the streets till putrefaction has reached an advanced stage. Such bodies it is now known may be centres of infection diffused by flies.

In connection with this subject a very interesting legal incident is reported from England. One Kempson had a cow which fell ill. Finding that she got no better, he killed her and sold the flesh. A number of persons who ate the meat fell ill, and one died, as certified by various doctors, of ptomaine poisoning. Kempson on this statement of facts was convicted of manslaughter and sentenced to eight months' imprisonment with hard labor. The law of New York warrants conviction in the event of death arising from food sold by any person knowing it to be unsound. The *London Law Journal* states the principle:

"There are two ways in which the question can be regarded, viz., that death was the result of the criminal act of selling diseased meat, which is a nuisance at common law, irrespective of the necessary statutory penalties provided by modern acts; the other that the accused was guilty of negligence so gross as to be evidence of felonious

intent in poisoning the deceased with bad meat, sort of felonious *mala praxis* in his calling as a tradesman, such as brings doctors and chemists occasionally within the grip of the criminal law."

We may recall here the confident expectation of a recrudescence of cholera this spring that was entertained by the physicians of Europe last year. This expectation has not been fulfilled. The drought of 1893 is one of the events that holds an assured place in history. In the North of Italy, for example, no living person recollects having seen the Italian lakes so low. In London the total amount of rain that fell during 110 days was 77-100ths of an inch. Mr. Symons, the best English authority on droughts, enumerates eight during the present century. Of these, the longest continued 105 days. Thus, the drought of the present year is the greatest in the British Islands authenticated by meteorological records.

Now, to the origins of some diseases dryness is the most efficient of all enemies. The present year the exertions of the world's health authorities have been seconded by the most searching drought known to modern times. But rain has begun falling and this ally is no longer to be counted upon. Time for preparation has been granted in overflowing measure. Man must henceforth depend on his own exertions, guided by his intelligence. The existence of an ounce of putrid matter anywhere implies a necessary statutory crime on the part of somebody. In flagrant cases where the negligence is gross the criminal law ought to be invoked. The authorities have awakened to their own direct responsibilities. If, however, a cart of butcher's offal emits putrid odor, then some one has failed in his duty and ought to pay the appropriate penalty.

Finally, the house fly must be regarded as something more than a mere vexation to the bald. He is a proved medium of infection under favoring circumstances.

## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

Farmer: What is black pepsin?

A.—The article in our last number probably explained all about this new swindle. It is probably a mixture of rennet in some form with a strong alkali. When churned with cream the rennet curdles the milk and the alkali saponifies part of the butter. This emulsifies the remaining fat and the curdled milk so that it is formed by the process of churning into a thick mass resembling butter but containing a very large proportion of water. There is no doubt that this preparation does not and cannot increase the actual amount of fat in the cream, but by enabling it to take up a large amount of water the yield is apparently doubled, although upon a careful examination this black pepsin butter would not in reality be as good nor contain as much fat as if the cream had been churned without it.



## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### PEACH PUDDING.

Fill a pudding dish with whole peeled peaches and pour over them two cups of water, cover closely and bake until peaches are tender, then drain off the juice and let it stand until cool. Add to the juice one pint of sweet milk, four well beaten eggs, a small cup of flour with one teaspoonful baking powder mixed with it, one cup sugar, one tablespoonful melted butter and a pinch of salt. Beat well three or four minutes, pour over the peaches in the dish, and bake until brown. Serve with cream.

#### STEAMED BERRY PUDDING.

One cup sugar, two eggs, two teaspoonfuls baking powder, two cups flour, one cup sweet milk, two cups berries. Steam about two hours.

#### STUFFED TOMATOES.

The tomatoes used must be ripe but firm. Scoop out the seeds and fill with the following mixture: Half a cupful of chicken cut very fine, mixed with a dozen chopped mushrooms, and two heaping tablespoonfuls of fine bread crumbs, a tablespoonful melted butter, pepper and salt to taste, and a little chopped parsley. Bake half an hour in a moderate oven, basting with melted butter. This will fill half a dozen tomatoes. Veal may be used instead of chicken.

#### FROZEN PEACHES.

Take two quarts of peaches, peeled and sliced, sprinkle with one pound of sugar, let stand two hours. Mash fine, add one quart cold water and freeze the same as ice cream.

#### BLACKBERRY WINE.

Measure your berries and bruise them; to every gallon add one quart boiling water, let the mixture stand twenty-four hours, stirring occasionally, then strain off all the liquor into a cask; to every gallon add two pounds sugar; cork tight and let stand two months.

#### LEMON ICE.

One quart water, one tablespoonful corn starch; boil until all taste of starch is gone. Add the lemon juice, two large lemons to a quart. Sweeten to taste when the mixture is cold, and leave the rind in for a while. Strain through a sieve and freeze.

### THE CARE OF LAMPS.

Granted cleanliness and ordinary care, there can be no accident. To begin with, the lamp should be trimmed and filled with oil in the morning every day. Once a week the oil container should be thoroughly emptied out and the small amount of dirty oil thrown away. Next see that the burner is clean. Whenever the lamp burns badly, this should be at once looked to, as it often is the cause. If the burners are boiled for a few minutes in soda and water at regular intervals, there will be no difficulty in the burning.

Next see that the wicks fit exactly. For this purpose, when new wicks are required, the lamp burner should always be sent. Some people buy their wick by guess, a most foolish plan, for not only must it be of the right width, but also of the right thickness, so as to allow of the oil reaching the flame properly, and also to let the

wick be turned up or down easily. Another thing to ascertain is if the wick is worn out. A lamp should have a fresh wick every month at least. Be careful before fitting in a new wick to see that the latter is perfectly dry. It should be placed for ten or fifteen minutes on a hot plate before fixing it in the lamp, so as to remove any moisture.

It is said that soaking the wicks in vinegar, and then drying them thoroughly, prevents all chance of smoking; but of this there should be no fear where the lamp is regularly and properly cleaned and trimmed. Be very careful in trimming the wick not to let any of the charred part fall into the burner. This is a fruitful source of trouble. Lamps with metal reservoirs are undoubtedly safer than those of glass or china, as the former, if upset, can be picked up and replaced before the oil can escape. Therefore, where children are about, it is better to have only metal containers or else metal containers which can be slipped into the china or glass stands.

Of course the oil used must be of good quality. There is no saving, but, on the contrary, waste and some danger, in poor oil. Bad oil clogs the wick and the burner, besides giving off an unpleasant and very dirty vapor.

One more hint. Never turn down a lamp, allowing it just to glimmer. It is meant to burn with the flame at full height, and when allowed to smolder in this way it will either smoke or smell—possibly both—and most certainly heat rapidly and become a distinct source of danger. —*London Queen.*

### WATERMELON TESTS.

I draw my thumb-nail over the melon, scraping off the thin green skin. If the edges of the skin on each side of the scar are left ragged or granulated, and the rind under the scar is smooth, firm and white, and has something of a glassy appearance, the melon is ripe. But if the edges of the scar are smooth and even, and the thumb-nail has dug into the rind in places, and the skin does not come off clean, then the melon is green. You can easily learn on two melons, one ripe, the other green, noting the difference after they have been cut open. —*Southern Farmer.*

### HINTS ON LAUNDRY WORK.

#### WASHING BLANKETS AND WOOLENS, DOING UP MUSLINS, SILKS, ETC.

Many a housewife finds a decidedly rough place in the laundry, while the ordinary maid-of-all-work is very frequently acquainted with none but the most rudimentary laundering processes; and faded cottons and shrunken and yellowed woollens are the usual result of the combined ignorance of mistress and maid. One of the imperative duties of spring, the period of house-cleaning, is the washing of the blankets used during the winter, and unless this work is intelligently done, the outcome is anything but a joy to the housekeeper's heart.

Blankets should never be laundered in hot water, as it is certain to shrink them and make them yellow. Moreover, the various waters used, both for washing and rinsing, should be of the same temperature, which certain good authorities claim should not be above 100 deg Fahrenheit. Strong ammonia should take the place of soap when blankets are to be washed, two table-spoonfuls to each gallon of water being the proper proportion. Place the ammonia in the wash-tub, then lay a blanket on the bottom of the tub, and immediately pour the warm water over it. The

fumes of the ammonia will penetrate the blanket and destroy both grease and dust. If there are any badly soiled spots, rub them between the hands, and the stains will disappear. Move the blanket up and down in the water, flapping the fabric together, and pressing it down and lifting it many times. Then rinse the blanket in clear, warm water, pass it through the wringer, and hang it in the shade to dry. Blankets should never be washed when the temperature is below freezing point, as the cold is certain to shrink them.

Ammonia is a blessing to the housewife, but the so-called household ammonia is so variable in quality that it is the best plan to have a reliable apothecary put up the quantity desired. It will not be more costly than the prepared ammonia, and is sure to be good. The Welsh people use ammonia in a crude form for cleaning their homespun yarns made from the natural wools. In fact, no better means has yet been discovered for extracting either the sheep's grease or the exhalations from the human skin.

The process above described for washing blankets is also most effective for purifying natural wool underwear. These articles should not be rubbed or wrung with the hands, as this would help to shrink them; they should be passed through the wringer the same as blankets.

White flannel trousers may be easily and satisfactorily washed by the use of ammonia in the proportion given above. Hang them wrong side out in the shade to dry, and be careful not to wring them in any way, as this would impair their shape. Suspend them by the waistband, and as the water collects in the lower hems, simply press it out with a dry towel. Repeat this process several times; and while the trousers are still quite damp, remove them from the line, and press without turning. When they have been ironed perfectly dry, turn them, and press a crease down the front of each leg.

When the baby's embroidered flannel skirts and blankets are soiled, the best plan is to wash out the spots without putting the articles in water. The dainty embroideries would be almost ruined by their first contact with water; so if they are much soiled, they should be sent to a professional scourer for a dry cleaning. When a garment is only slightly defiled, however, place a tablespoonful of ammonia in a two-quart bowl, lay the soiled part of the fabric in the bowl, and nearly fill the latter with lukewarm water; the spots, unless very obstinate ones, will disappear when the material is dabbled up and down in the water. Flannels should never be blued, and crocheted skirts and edgings should be pulled and shaken well into shape before being hung to dry.

For old white flannels that have turned yellow there is a process of bleaching that the amateur will find productive of good results. When the flannels are about half dry, hang them on cords in a tight box or barrel, place a few live coals in a flower-pot saucer set on a brick in the bottom of the receptacle, sprinkle powdered sulphur on the coals, and cover the box or barrel tightly. The articles must not be hung too close to the coals, for fear of scorching. Sulphur fumes being very corrosive, the bleaching should obviously be done in the open air or in a room with closed doors and open windows. Too much sulphur will rot the fabrics; a teaspoonful is sufficient for an ordinary barrel. After the articles have bleached for half an hour, remove them, and press all except blankets, which should never be ironed. The iron should not be too hot, and a piece of muslin should be laid over the goods while they are being pressed. If a smooth surface is desired, press until the garment is perfectly dry; but if the nap



is to be raised, remove the muslin while the steam is rising.

Not the least difficult of the problems which confront the inexperienced laundress is the "doing up" of the delicate cotton gowns that now form so important a part of every summer wardrobe. The making of cottons into dresses for the children of the family is a not inconsiderable portion of the mother's work, and it would be a serious matter if a single visit to the laundry were to destroy all their color and freshness. Cheap, highly-colored cottons seldom, if ever, wash well, and we have no advice to offer regarding this class of goods; but good gingham, chambray, the dainty sprigged dimities and all the other reliable cotton cloths may be successfully laundered if intelligently treated. Cotton goods will scarcely ever fade if they are allowed to lie for some hours in a bath prepared by dissolving salt in boiling water in the proportion of half a pint to a quart of water. Place the dresses in the water while it is still warm; and after they have laid for several hours, wring them out, and wash in the usual way. This process is only necessary before the first visit of the garments to the laundry. Some skilled housewives set the color in such cottons by the use of the acid bath. This is prepared by adding enough acetic acid or vinegar to give the water a sour taste.

The dainty-hued muslins that are much too delicate to be subjected to the influence of ordinary soap or starch must be laundered in rice-water. To this class belong the beautiful organdies, and the comobates, which are new and popular fabrics of a wonderfully thin and sheer texture. To stiffen any cotton dress with starch is now regarded almost as a desecration, and no woman who is well informed will allow it. Such garments must be clear and crisp, but must hang in soft folds without a hint of stiffness. To prepare the rice-water, boil half a pound of rice in the clothes boiler with two or three gallons of water; and as soon as the rice is soft (twenty minutes of boiling will usually suffice), drain off the water, and wash the soiled muslin in it while it is still hot, using no soap. Place the rice in a porcelain bowl or a pan; and after the dress has been washed in and wrung from the rice-water dip it in the soft rice, rubbing the latter over the entire dress. Then place the garment in lukewarm water, rinse off the rice entirely, and hang in the shade to dry. The process may be varied as follows: First wash the dress in the softened rice, rinse it with lukewarm water, wring dry, and complete the "cleaning" with the strained water in which the rice was boiled. Dry flour is a familiar agent for cleansing woollens and even stained furniture covers; and this application of rice starch and gluten simply carries out the same idea. Muslin treated in this way will be found to possess just the desired degree of stiffness.

Muslins may also be stiffened by washing them in water in which bran has been boiled. The chief point to be remembered in washing cottons is that soap must never be directly applied to them. After the color has been set, if the rice process is considered too "fussy," the garments may be washed in water in which soap has been dissolved; and it is safest to use a white soap. Sometimes gray or buff linen will mysteriously spot in laundering. Allowing a tablespoonful of black pepper to every gallon of the washing water will prevent this trouble.

Still another problem of the laundry is the proper treatment of the silk skirts now so generally worn. Chemists sell tiny vials of coloring, which may be used to augment that of the silk, for washing is sure to rob the material of some of

its pretty color. To wash a pink silk waist, rub it gently between the hands in lukewarm water in which white or castile soap has been dissolved; then squeeze out the water with a moderate pressure, and rinse in tepid water to which have been added a few drops of prepared "lake color," using enough of the color to produce a delicate shade of pink. Dry the waist quickly, being careful that it is just damp enough to iron when taken from the line. Garments of this kind should never be sprinkled and rolled up preparatory to ironing, as this would surely spot the silk. If the silk by chance is allowed to become too dry, it should be dipped in the water and again dried. In ironing lay thin muslin over and under each garment, so that the moisture may be absorbed instead of being held as steam in the silk to darken it. The iron must not be too hot. In washing a blue silk skirt liquid blue should be used as above directed; and for yellow skirts there is a preparation of saffron sold by chemists that will reinforce the color satisfactorily. If a blue fabric has faded, the acid bath is said to be a good restorative, but it is best to experiment with a small piece of the silk, because blue dyes differ largely in quality. Lay the silk in the sour water for three or four hours, then press out the water, and wash as directed.—*Delineator*.

## ADULTERATION.

### TALK ABOUT SPICES.

PAPRIKA, THE HUNGARIAN CAYENNE; MUSTARD, ETC.

"Take care! Take care! Do you see that that's red pepper you are putting on your chop?"

The diner on the opposite side of the restaurant table smiled blandly, and continued to eject bright red pepper from a small bottle.

"It's all right," he answered. "I know what I am about. This is red pepper in one sense, but not in the sense that you mean it. That is, it is not cayenne pepper. It is what we call Paprika, a Hungarian pepper, although fiery red in color, is mild and sweet and much more digestible than the ordinary black pepper. One grows fond of the flavor of it, and I often bring a small bottle of it in my pocket, as I have done to-day. This is not one of the restaurant's bottles."

"You must be a connoisseur in spices," was suggested, "to carry your own pepper into a restaurant."

The diner smiled again; not only blandly this time, but wisely, as though all the secrets of the spice islands were locked in his bosom.

"I know a thing or two about spices," he replied. "I have been in the spice business in this city and in Providence, R. I., for twenty-eight years." His smile this time gave the impression that the more a man knew about spices, the less he would use of them.

"I did not know there was any form of red pepper but the hot cayenne," his companion ventured.

"Most likely not," the diner laughed. "I am prepared to believe that you know nothing whatever about peppers. For instance, why is it that some black pepper is white? Of course you don't know. I'll tell you in a few minutes. But it is not only pepper that you know nothing about. You know nothing about any kind of spice. Excuse me, I don't mean to be personal; when I say you, I mean everybody. If there is any subject on which people are absolutely and totally ignorant, that subject is spices."

"But—"

"Wait a moment, please. It's not worth while

to argue this thing, for I can convince you of your ignorance in two minutes. There are some secrets in the trade of manufacturing spices, but you need not be afraid that I am going to tell you any of the secrets. I can tell you, however, some facts, and they will answer equally well.

"There are in this city," he went on, putting another dash of Paprika on his chop, "five spice-importing houses, seventeen wholesale houses, fifty-eight brokers, and ten converters, or manufacturers. Manufacturing, in this business, means merely grinding, mixing, and if you choose to regard it so, adulterating. Most spices we use are adulterated, but not with harmful ingredients. The adulteration only increases the bulk and reduces the strength. These people I have mentioned are the only ones in New York who really know anything about spices; so you see it is altogether unlikely that you should know anything about them.

"Before I take up any particular spice let me tell you something about spices in general. It is pretty well established—at least it is commonly believed—that all vegetables were spices a few millions of years ago. Spices are the essences of vegetation—that is to say, they contain an essential oil which distinguishes them from other vegetables. The presence of this oil is always accompanied by a resinous property which produces pungency. By the process of evolution, an evolution produced in this case by cultivation, the vegetables grow larger and lose their strength. For example, the crab apple, the smallest form of the apple that we know, is extremely sour. Doubtless it was originally smaller than black pepper, and stronger. It may eventually be cultivated into a pumpkin in size, and lose all its strength.

"You will find this to be the case with all vegetables; the big ones are mild, the small ones are strong. Look at peppers. There is no strength in the big 'sweet' peppers raised in our gardens. You can eat one down without difficulty. But try to eat one of the tiny 'bird' peppers of the West Indies, and it will burn your mouth out. That is the original pepper, or something like it; the big one has been developed from it by cultivation, and the bigger it grows the less strength it has. Think of it for a moment; did you ever see a spicy watermelon? a 'hot' pumpkin? Of course not. It is the tiny things, the originals, that have the strength.

"The spices that our importers and manufacturers handle are nutmeg, coriander, cumin, cardamon, cinnamon, anise, peppermint, pepper, cloves, tumeric, tamarind, caraway, mustard and ginger. Some of these are not properly spices, but they are all considered spices in the trade. Pepper is the most important of all. Oh, I was to tell you why some black pepper is white. White pepper is simply the ordinary black pepper harvested when fully ripe. There are many varieties of peppers—black, white, long, red or cayenne, Paprika, Ashantee, Jamaica and Maleguetta. Jamaica pepper is not pepper at all but allspice, called pepper only on account of its apparent resemblance to the pepper family. Many people consider allspice the parent spice perhaps on account of its name. But that is a mistake; allspice is only the product of pimento, or Jamaica pepper.

"The black pepper plant is a climbing shrub, a native of the woods of Travancore, Malabar, and a few minor Pacific islands. It has, however, been introduced into nearly all the Pacific islands and the West Indies. Penang produces half the world's crop at present. The seed grows loosely in a pod and is harvested at all seasons.

"The nutmeg is not only one of the most im-



portant but also one of the most curious of our spices. It is the kernel of the seed of an ever-green tree that grows from fifty to sixty feet high and that is found growing wild in the Banda Islands in the West Pacific. The tree is cultivated in many tropical countries, and will grow almost anywhere below the frost line. As there is no absolute frost line in any part of the United States—even Key West having an occasional frost—no nutmegs have ever been raised in this country, except, as the jokers put it, in some factories in Connecticut. The soil and climate of Jamaica are peculiarly adapted to the growth of the nutmeg tree, and some are growing there that surpass the Banda trees in size and productiveness. They were raised at first only as curiosities, but they are gradually increasing in numbers, and I should not be surprised if within a few years Jamaica supplied this country entirely with nutmegs and mace.

"Nutmegs and mace go together, mace being only the inner lining of the nut in which the nutmeg is the kernel. The trees begin to bear these nuts when about eight years old, and they continue to bear for nearly a century. The ripe nut is almost as large as a small apple, and when fully matured it splits open and the single seed is exposed. The nuts are allowed to fall from the tree, and when picked up the outer covering is torn off. The next layer of covering is mace, which is an important article of commerce. The nutmeg is the heart of the nut—the seed from which another nutmeg tree may spring. This kernel, the nutmeg, is put in an oven over a gentle fire and is kept there slowly baking for about eight weeks, being turned over two or three times every week. After this process it will keep indefinitely, losing little of its flavor. The nutmeg is the most unprofitable thing that the spice man can handle. Why? Well, most other spices are so strong that the manufacturer finds it necessary, solely for the public good, to tone them down a little with flour or cornstarch. But there is no toning down a whole nutmeg. Nutmegs are very full of oil, and the fatty substance is called oil of mace or nutmeg butter. But that's another story and does not properly belong to the spice man's trade.

"Speaking of cloves—we weren't speaking of them but we will—I don't suppose you even know where the name comes from. No, I thought not. It comes from the French word *clou*, meaning a nail, the clove looking very much like a nail. Though a small fruit it does not grow upon a bush but upon a tree. The tree came originally from the spice islands, but it has spread all over the tropical world. Mauritius sends us a large proportion of our cloves, and the clove trade is one of the most important of that distant country. If you want a little prophecy, I advise you to watch the clove market and see the price go up within a year. Why? I don't know that I ought to tell you why. But a few years ago a certain Englishman was appointed Governor of the Island of Trinidad, where the great pitch lake is. Immediately thereafter the price of Trinidad pitch went up—we use a great deal of it in paving New York streets—and the pitch lake was said to be in the hands of a monopoly. As that same Englishman has lately been transferred to the governorship of Mauritius, and as I look for a monopoly there soon in the clove trade, I can leave you to draw your own conclusions.

"The Spice Islands? They are so-called because nearly all spices are indigenous there. But they supply a very small proportion of the spices of commerce. Most spices are cultivated now in tropical countries, and the Spice Islands are unimportant to the trade. Nearly all spices come

to this country in their native form in sailing ships, and generally the packages are done up in native style—wrapped with palm leaves or covered with the coarsest kind of home-made jute. They go through the brokers' hands to the manufacturers, and make their first public appearance in tin cans. Do you know why all the manufacturers insist upon doing their spices up in tin cans marked with their own labels, instead of selling ground ginger or ground pepper by the pound or ounce as it used to be sold? That is so that the customer will take the label and the firm's name to be an absolute guarantee of purity. My, my, my! This is a funny world, isn't it?

"There are some liquors made from spices beside which whiskey and brandy are as water; but they have nothing to do with the spice trade proper—not in this country at least, for most of them are made in other lands.

"So you thought I was very fastidious to bring my own pepper into a restaurant, did you? But that is not all I have brought, see here."

He produced from his coat pocket a small tin can of mustard, in the powder.

"I carry not only my own pepper, but my own mustard, too. No, it is no better than the mustard that they use here in the restaurant. Pure? Well, it is as pure as any mustard ought to be. It is toned down like all the ground mustard you buy, with flour or corn starch. But that does not hurt it; it is rather an advantage, for perfectly pure ground mustard is too hot to be used with comfort. Then why do I carry it? Because to be in its best state mustard must be used as soon as it is mixed. And it must be mixed with only pure cold water—no vinegar, no sugar, nothing but water. Look at that stuff in the castor bottle. It has stood there for days, and is disgusting to look at, entirely unfit to eat. With a teaspoonful of dry ground mustard, freshly mixed with a teaspoonful of cold water, I have a condiment with a flavor, instead of a muddy, stagnant paste. No mustard is fit to use after it has been mixed an hour."

## HYGIENIC.

### INFLUENCE OF GRAVEYARDS ON PUBLIC HEALTH.

This subject has been considered in earnest, recently, by the Mississippi Valley Medical Association, the formulated conclusions of that body being, as set forth, that the method for disposing of the dead should be founded on reason and not on custom or sentiment, that the interment of the dead in earth was never enforced by a statute, Jewish or Christian, being merely incidental to both dispensations; that no law, human or divine, requires any such disposal of the dead as is prejudicial to the health and comfort of the living, and, while it may be an open question as to the right of the State to decide on the manner of disposing of the dead, unless in exceptional cases, it is clearly the province and duty of the State to prevent such practice as will in anywise jeopardize the interest of the living. As a final declaration, in view of all the facts attainable, the opinion is expressed that the graveyard, as a constant menace to public health, should become a thing of the past, and that incineration is the method most in accordance with science, sanitation, reason and religion.

## QUITE TRUE.

To keep the complexion and spirits good, to preserve grace, strength and agility of motion,

there is no gymnasium so valuable, no exercise more beneficent in its result, than ordinary housework, the sweeping, dusting, making beds, washing dishes, and the polishing of brass and silver. One year of such muscular effort within doors, together with regular exercise in open air, will do more for a woman's complexion than all the lotions and pomades that were ever invented. Perhaps the reason why housework does so much more for women than games is the fact that exercise which is immediately productive, cheers the spirit. It gives women courage to go on living and make things seem really worth while.—*Medical Record*.

## DESTRUCTION OF CITY REFUSE.

[Concluded.]

### ELECTRIC LIGHTING.

The waste heat from the destructor is utilized for producing electricity. The air-compressing engines drive a dynamo of 150 volts. At the present time the works are lighted with two arc lamps of 3,000-candle power each and twelve incandescent lamps of 16-candle power each; and four streets in the vicinity of the works have been lighted experimentally for the information of the corporation, which, from the successful results obtained, resolved to extend the installation to the municipal offices, a town clock, the Hartley Institution, and the town hall at the Bar Gate. For this purpose it was proposed to place accumulators in the basement of the municipal building and charge them through a cable from the works. Circumstances having led to the abandonment of the street lighting, the public became financially the losers, and a private company is now supplying consumers.

### OTHER USES.

The destructor is also employed in lending a helping hand to a neighboring authority by supplying to the local board of Shirley and Freemantle, about 2½ miles from the works, sufficient compressed air to work ejectors which they have erected in connection with the disposal of their precipitated sewage sludge from a population of 15,000. The compressed air is conveyed through a 4-inch main from the destructor works to their precipitation reservoirs, thus saving them the cost of a pumping station and bring to the corporation a return of £200 a year, which is received for the compressed air. Thus the destructor works are now dealing with the sludge of nearly 30,000 inhabitants.

### COST.

The initial cost of the complete destructor—including engine house, inclined roadway, chimney shaft, boiler, and ironwork—was £3,723 (£18,116.11), and the sewage disposal works on the town quay cost about £3,000 (£14,598). This is exclusive of the Shirley and Freemantle works, which consist of three reservoirs very similar in construction to those at the town quay.

The annual expense for burning refuse is as follows:

DESCRIPTION.	AMOUNT.		
	£	s.	d.
Two stokers, one by day and one by night, at 25s.....	130	0	0
Two feeders, one by day and one by night, at 23s. 4d.....	121	6	8
Total per annum.....	251	6	8
			\$1,222.97

### VALUE OF REFUSE AS FUEL.

The quantity of refuse burnt per day of twenty-four hours is a little over 50 tons, so that the cost of burning is about 3½d. per ton. The minimum



quantity burnt per day of twenty-four hours is about 25 tons, which has been sufficient to maintain steam for the engines of 31½ indicated horse power. This is equivalent to 16 cwts. of refuse per indicated horse power for twenty-four hours, or 75 pounds of refuse per indicated horse power per hour.

The annual expenditure for the sewage clarification and disposal is as follows:

DESCRIPTION.	AMOUNT.	
Precipitating material for 365 days, averaging about 5s. per day.....	£ 50	\$137.94
Engine-driver and laborers at reservoirs.....	12s	622.84
Two men at wharf mixing manure....	104	506.06
Total per annum.....	£322	\$1,566.84

#### REVENUE.

The amount realized from the sale of manure and for the supply of compressed air during last year (1891), was £600 (\$2,919.60). The products from the destructor—including concrete slabs, clinkers used for concrete foundations, and fine ashes for mortar and for foundations of foot-walks—represent about £300 (\$1,459.80). To these may also be added the saving of the coal which was required for working the engines previously to the establishment of the destructor.

In a dispatch subsequent to the foregoing Consul Bradley transmitted a printed report, prepared by the engineer inspector of the local government board of London, from which the following extracts are taken:

#### BURNING SCREENED REFUSE.

The burning of screened or selected refuse under steam boilers is in practice at Manchester, Bolton, Glasgow and Birmingham. At the three first named places large grate area, a thin fire, and frequent clinkering and firing are depended on; but at Birmingham there are special arrangements which deserve notice. At the Montague street wharf, where by far the larger part of the refuse is burned under boilers to raise steam for drying excreta, there are thirteen multitubular boilers, eleven of them 13 feet long and two 11 feet long, and all 6 feet 6 inches in diameter. They have fire grates 5 feet wide and 5 feet 6 inches long, fitted with patent lifting and moving fire bars, designed to break up the fire and prevent clinkers forming in large cakes and to keep the spaces between the bars clear. The play of the bars can be regulated to suit the kind of refuse burning, or it can be stopped entirely. The effect when in use is to work the clinker to the back where it falls over the end of the fire grate and is removed when cool from the ash pit. The refuse burned under these boilers is that from which the fine ashes have been screened for mixing with excreta, and there is no difficulty in maintaining steam at sufficient pressure to be used for drying excreta. There are, besides, two Galloway boilers, 27 ft. 6 inches long and 7 ft. 6 inches in diameter, fed with cinders screened from the refuse and mixed with slack, which raise steam for two 25 horse power engines which drive the machinery of the yard.

#### THE FIRE DESTRUCTION SYSTEM.

The escape of dust and smell from the chimney must be regarded as defects to be remedied, especially where the air is not already polluted by factory chimneys. Much in the way of prevention may be effected by careful and systematic firing and feeding, combined with large flues or dust chambers, frequent removal of dust, and proper regulation of the draft. When these pre-

cautions do not suffice, passing the products of combustion through or over a second fire appears to be the most promising means of destroying smoke or smell and preventing the escape of dust.

In other respects the burning of town refuse by furnaces already in use appears to be successfully carried out. There is no accumulation of an offensive material at the works, and very little smell. Everything combustible is burnt within a few hours of collection without nuisance and at a cost which compares favorably with the old system of carting the refuse to tips. A valuable means is at the same time provided for effectually disposing of infected bedding and clothing, condemned meat and provisions, and the carcasses of diseased animals. Further improvements may be expected but the results already attained show that the destruction of the refuse of towns by fire is not only practicable, but is the best and often the only way of dealing with it in a manner to satisfy sanitary requirements.

#### BURNING DISEASED ANIMALS AND CONDEMNED FOOD.

Considerable care is now taken (in Leeds) with the charging and clinkering of the furnaces. At first all the cells were clinkered and charged, one after the other, every two and a half hours as quickly as the men chose to do it; but now a pair of cells are charged every twenty-five minutes regularly. The result is that the temperature in the main flue is more uniform, and there is less smoke from the chimney.

The fires are kept continuously alight, except when drawn for repairs. The furnaces are filled up and banked about 1 p. m. on Saturday, and the damper is closed at 7 p. m. till 12 on Sunday night. The amount burned in the year ended August 31, 1886, in twenty cells was 35,248 tons, giving an average of 34 tons per cell per week, consisting of refuse from ash pits, with trade and market refuse. Mr. J. Newhouse furnished the following list of other things destroyed during the same period: Eleven cows, 3 calves, 17 sheep, 4 goats, 298 hogs, 5 turkeys, 2 carcasses of beef, 28 quarters of beef, 9 cwts. of pork, 10 cwts. of pickled tongues, 12 cwts. of herrings, 218 cwts. of shellfish, 1 cwt. of sugar, 285 dogs, 109 cats, 13 foxes, 1 sea serpent; 147 mattresses, beds, pillows and bolsters; 7 blankets, quilts and sheets; 36 pieces of carpet, 7 hearth rugs and mats, 33 pieces of wearing apparel, 1 bedstead, 1 sofa, 1 chair and 1 bundle of rags.

This is not an unusual year's work and the destruction of diseased animals and condemned food is constantly effected without offense. On one occasion, on an outbreak of swine fever, 200 hogs were burned, and in one afternoon 50 were destroyed, three at once in a cell, only a faint odor of roast pork being perceptible on a hill to leeward of the chimney.

DISEASE IN PILLOWS AND BOLSTERS.—A correspondent of a medical journal bids us take note of the fact that disease and death lurk in the very pillows and bolsters on which we lay our heads at night. It is easy to talk of down and feathers, but as a fact if they were cut open these articles would be often found to be more or less stuffed with the most heterogeneous materials. Pillows, bolsters, and beds have been examined, and found to contain portions of filthy, coarse black serge, apparently parts of soldiers' coat sleeves, pieces of dirty, greasy silk dresses, old worsted braid from the borders of women's gowns, soiled linen rags and colored calico, and even nuts and walnut shells and pieces of crinoline wire. The bedding in this case was bought

new, we are assured, a few years ago of an expensive and respectable upholsterer. Moreover, a woman who was employed to do the unpicking work for the trade informed the lady of the household that the practice of stuffing bedding with dirty rubbish and rags was very general, and that few beds or bolsters contain only the materials of which they are supposed to consist.

FIVE WAYS TO STOP OR CURE A COLD.—1. Bathe the feet in hot water, and drink a pint of hot lemonade. Then sponge with salt water, and remain in a warm room. 2. Bathe the face in very hot water every five minutes for an hour. 3. Snuff up the nostrils hot salt water every three hours. 4. Inhale ammonia or menthol. 5. Take four hours' active exercise in the open air. Summer colds are the worst of all colds oftentimes, as it is then very difficult to protect one's self properly. A ten grain dose of quinine will usually break up a cold in the beginning. Anything that will set the blood actively in circulation will do it, whether it be drugs or the use of a bucksaw.—*Medical News.*

## INVENTIONS, SCIENCE, ETC.

### DENSITY AND GRAVITY—FACTS AND FANCIES.

INFORMATION WANTED, St. Louis: In your editorial on "Purification of Water by Repose" (*National Druggist*, October 15), you state that the minute calcareous shells of microbes sink to the bottom of the oceans and form a layer there. I was taught that sea water increases in density as it gets deeper, until finally a point was reached where even a cannon ball would not sink any deeper. If this is true, and it seems reasonable to my mind that it is so, how do you account for the comparative light shells sinking where a cannon ball can not? I do not doubt that deposits like those you describe have been dredged up from the bottom, but how do we—you, I, or anybody else—know that they were not created there? It seems to me, as a plain, common-sense man, that there is a heap of nonsense in "science falsely so-called." I am not a subscriber to your journal, not being a druggist, but I get a chance to read it regularly, and I must say I like it, all except your occasional flings at what you call superstitions, but which to me, as a God-fearing man, are based on eternal truth, the rock of ages, God's revelation to man, the Bible.

We do not desire to wound your feelings or your beliefs, and yet it is difficult to answer your communication without doing so. Your letter illustrates, in a remarkable way, how dangerous a thing a little learning is (especially if it be false learning), and how ready the man possessing it is to make himself absurd. You assume as undeniable facts a condition of things which has no existence, and therein you reach a conclusion which a moment's thought would have negatived, had you been such a man as you describe yourself. A "plain, common-sense man," in a case of this sort, would proceed upon cold, well-established facts, and not upon beliefs.

You were taught, you say, that "sea water increases in density as it gets deeper, until finally a point is reached at which even a cannon ball will sink no deeper." This is only partially true. Sea water does, indeed, increase in density as it grows deeper, and a point is finally reached at which a cannon ball will sink no further, but unfortunately for your argument, that point is at the bottom. The cannon ball, which at the surface is nearly eight (7.8) times as heavy as the



same volume of water, bears exactly the same proportion to the surrounding water when lying at the bottom. Grant that sea water grows denser as it grows deeper, and that at the depth of a mile there is a pressure of about 2,350 pounds to the square inch, is not this pressure exerted upon the sinking ball as well as upon the surrounding and underlying water? The advantage in weight with which the ball started remains with it through ever-increasing pressure, and it will continue to seek the centre of gravity in this ratio, according to fixed and well established laws.

You unconsciously admit this fact when you say that you "do not doubt but that the deposits described were dredged from the bottom." If a cannon ball can not reach the bottom, how can a dredge, consisting of iron and twine (and consequently lighter, volume for volume, than the cannon ball), reach it?

How do we know that the deposits were not "created where they were found?" We suppose that you mean to ask how do we know that the microzia (not *Microbes*, please!) did not exist at the depths mentioned. Simply by the fact that none are ever dredged alive from those depths, and the living animals are always found at or near the surface. We know it by careful and long study of the mode of life and habits of the creatures—all definite and exact, if not complete knowledge.

We quite agree with you that there is a "heap of nonsense in science falsely so-called," and might cite your letter to clinch the truth of the remark, if we were not afraid that you might take it as rather personal.

A word or two more. Things based upon "Eternal Truth" can not be successfully assailed. Though in the search for absolute truth (and in science nothing short of this will answer) we may have to brush away many things which have been accepted as truth from time immemorial; all that is true will stand the ordeal. The highest honor that we can pay to truth is to show our confidence in it, and to have it sifted and analyzed by any and every process, being well assured that it alone can abide all tests, and like the genuine gold come out of the crucible all the purer from the fiercer fire. Remember how many things which, when first advanced as theories, were regarded as absolutely subversive of all Christian tenets, destructive to all revelation, as blasphemy against the Church and God—the position of the earth in the solar system, the antiquity of man, the principles of geology, for instance, all of which are now accepted as demonstrated truths. Don't be too ready to take up what in the middle ages was called "God's quarrels." Trust God to take care of his own quarrels, and remembers "*Deorum injuriæ diis curæ*."—*National Druggist*.

#### WILL THE CHEMIST EVER PRODUCE LIVING MATTER?

ARMAND SABATIER.

[*Revue Scientifique*, Paris.]

Nature has not been able to form at one stroke the different elements. She has created matter living, simple, homogeneous. It is this last which, through a considerable series of ages and of generations, has been called on to elaborate the different elements with which we are acquainted. We must not, then, ask the chemist to do more than nature herself has done. Those who demand that he create directly a cell, muscular fibre, infinitely surpass in absurdity people who ask a miner, whose part is limited to extracting the mineral, to construct with the means at his command one of our magnificent armored ships. The miner can furnish the ore, but it re-

quires the metallurgist with his furnaces, retorts, and reagents to extract from that ore the necessary masses of metal. After him must intervene the engineer to conceive and draw the plans, the iron founder, the workmen who direct the rolling mill and trip hammers, the adjuster, the polisher, the shipwright, properly so-called, and so on, all of whom contribute in succession and through a long series of days, towards the preparation and perfecting of the different parts of the mighty vessel; and all that under the eye and direction of the engineer who has conceived the plan, ordered its execution, and arranged for the means to execute it.

Thus, there has contributed to the differentiation of the muscular fibre, of the grain of starch, of the nervous cell, an innumerable series of little workmen and little laboratories, conformably to the plan of the Creator.

Here, then, we have well-defined and limited, what may be expected of the chemist; to create simple living matter (albumen or protoplasm) as nature has created it. What may authorize us to expect this of the chemist is the progress made quite recently and so rapidly in the direction of organic combinations.

It is true, that if we have produced albumen, we have not yet succeeded in making living albumen, active like that of protoplasm, endowed with the power of selection and with an instability appropriate to the vital exchanges. Pflüger thinks however, that unvitalized albumen and vitalized albumen, are isomeric, that is to say, that they are bodies having the same elementary composition and differing only in the reciprocal disposition of the atoms in the molecule.

Now, chemistry has already proved that it knows how to produce isomeric changes in a considerable number of bodies, for instance, in hyposulphite of soda; and nothing warrants our saying that after having produced unvitalized albumen chemistry will not some day find the means of determining in that albumen the isomeric change which will make it living albumen.

Besides, it is worthy of remark that life itself produces at once these two isomeric states of albumen; the one, the active state in protoplasm; the other, the passive or inert state in the albumen of the egg, among the birds. This last, of which the object is to nourish the embryo, may be preserved intact for years, not suffering any alteration from oxygen, which can neither oxidize it nor contribute to put it out of order. It should be kept in mind, moreover, that the albumen lacking in the power of selection is a product of secretion of the cells of the oviduct.

In order to create simple living matter, the chemist can use more than one method. First, he can reproduce exactly the conditions of the medium which favored the appearance of living matter; or, second, discover new conditions which will produce the same result; produce, for example, the isomeric change of which I have spoken. In fact, you can obtain the same composition by various methods, as has been done in the base of alcohol.

Will the chemist some day realize one or other of the conditions mentioned? This question no one has ground for answering positively: No. The creation of living matter by chemistry is not *a priori* absolutely impossible.

Yet, supposing these conditions realized, will the chemist succeed in giving birth to parcels of living matter which, like the first created at the origin of life on the globe, will be able to become the point of departure for successive generations and of a new evolution in the present conditions of nature? Here, it seems to me, the answer must be in the negative, and for this reason: The

first particles of living matter created have lived and propagated themselves through a long series of ages in an environment adapted to them at every stage, they have subsisted, notwithstanding the modification of conditions, because those modifications, slow and covering long spaces of time, permitted living matter to modify itself slowly and adapt itself to the new conditions. The question put, then, amounts to this: Will the chemist who shall realize, during a sufficient time and in a limited space, the conditions which originally influenced the formation of living matter—will he be able to preserve those conditions during a space of time sufficient to modify those conditions with necessary slowness to allow of living matter having the time to adapt itself and enter into useful and conservative relations with existing natural conditions? If you recall the length of time which nature requires in order to reach this result of adaptation, it is logical to conclude that such demands are wholly beyond the conditions permitted to the experience of man. If man shall be able some day to create living matter, he can observe it during a longer or shorter period; he can study it; but it will be an embryo of which the development will never begin, in consequence of a lack of suitable conditions of medium. It will be a veritable abortion. The *homunculus*, therefore, has not yet been made!

## MEDICAL.

### APOPLEXY IN THE JURY-ROOM.

The Queen of Spain, it is reported, once fell from her horse. Her foot became entangled in the stirrup, and she was dragged in the muddy road. None of the officials near by could help her, for it was the sole privilege of the master of the horse to assist the queen to dismount, and this public functionary was absent. History repeated itself in the case of the Fox will case recently tried in Boston. The court had been adjourned and the jury were deliberating on the verdict. One of the jurors was seized with apoplexy. The officer guarding the sanctity and secrecy of the jury-room was not empowered to grant admission to a physician so he sent word to the deputy sheriff. The deputy hesitated, but finally referred the matter to the sheriff. The sheriff declined to act and sent couriers to the judge, and he finally issued an order summoning a physician.

### BUTTER BACTERIA.

Bacteriological study shows that the "ripening" of cream preparatory to its being churned into butter, is nothing more than a breeding of bacteria on a large scale. There were many bacteria in the cream at the beginning, and the ripening has been conducted at just the temperature at which bacteria grow rapidly. The result is, that their multiplication is marvelously rapid, and the number of bacteria present in ripened cream is beyond comprehension and almost beyond calculation. Five millions in a drop would not be too high an estimate for some specimens.

Now, what are the bacteria doing in the cream during their twenty-four hours' growth? They cannot multiply so rapidly without producing profound changes in the cream. So far as the butter maker is concerned their action is twofold: 1. There is produced in the cream a considerable amount of lactic acid, together with small quantities of other acids. 2. Various decomposition processes are going on which fill the



cream with decomposition products, and these give rise to the odor and taste of ripened cream.—*Popular Science Monthly*.

**IVY POISONING.**—So many persons are poisoned every year by ivy that it is well to learn how to distinguish the plant at a glance and avoid it. *Orchard and Garden* tells how to distinguish it from the woodbine or Virginia creeper, which is harmless, but often confounded with the poison ivy. The woodbine has five leaves, the poison ivy only three. The latter also has leaves of a lighter, more vivid green and more glossy. It climbs on fences and stone walls, which it covers thickly, but often branches out more like a tree than a vine. Many sufferers from ivy poisoning have been cured by bathing the poisoned parts in a strong lye made from wood ashes, while a few doses of olive oil, taken immediately, will often give relief.

#### DIPHTHERIA FROM RAGS AFTER NINE YEARS.

The absolute necessity for disinfection and the supreme fact that in this procedure alone can be found immunity from the propagation and transmission of contagious diseases, is again well illustrated by the case recently reported by Dr. L. J. Rhea, of Carey, Iowa. He was called to see a child eight years old and found a fully developed case of diphtheria, followed in the course of ten days by five others. There were no cases in the neighborhood, but upon investigation it was found that the father three days previously had bought a sack of old rags from a neighbor, who, nine years before had taken them from a house where diphtheria prevailed, and of a very malignant type. The sack was opened by the children and some false hair was found with which the children amused themselves. During this time the rags had remained undisturbed in an old out-house.—*Annals of Hygiene*.

#### WORCESTERSHIRE SAUCE IN SEA-SICKNESS.

Dr. Miller, of Largs, recommends Worcester sauce, in teaspoonful doses, given without water, for preventing and curing sea-sickness. It should be given every three hours until the stomach can tolerate and retain its contents. Avoid stimulants, but give small quantities of good beef tea with cayenne pepper in it. This remedy is easily obtained on most steamers, pleasant to take, and has often succeeded when all other means have failed. In some cases he recommends the application of a tightly-applied bandage, rest on the right side, and frequent small quantities of fluid food.

#### INSURANCE FOR DRUGGISTS AGAINST CLAIMS FOR PRESCRIPTION MISTAKES.

Our London correspondent sends us the following announcement from the Northern Accident Insurance Company, of London: "The directors of this company have made special arrangements to insure chemists and druggists against claims arising out of errors in preparing medicines, or by or through any act or omission on the part of qualified or unqualified assistants, or principals, including legal charges for defending any actions that might have to be contested. I feel sure that you will at once realize the necessity of this form of insurance, and, on hearing from you, I shall be very pleased to supply you with further information as to our rates of premium, etc., which are based according to the amount of liability you wish to cover."

LONDON FOG A "SANITARY BLESSING" (?)—The Institute of Civil Engineers in London has an-

nounced that the London fogs are "sanitary blessings" on account of the diffusion of a large amount of sulphurous fumes which are antiseptic, and yet the mortality during these fogs is increased just fifteen per cent.

### MISCELLANEOUS.

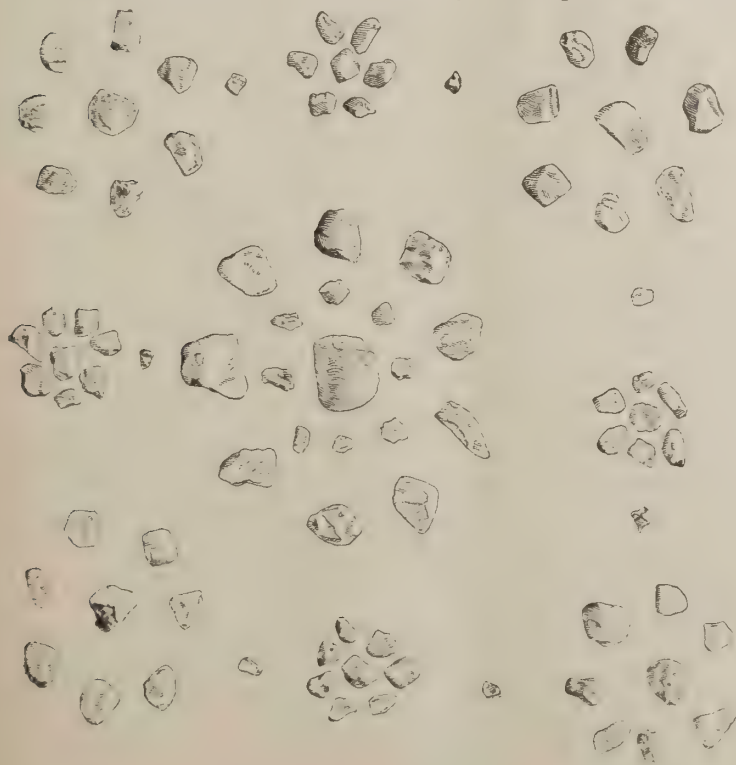
#### THE MOST USEFUL MINERAL.

If one were to ask his friends what mineral we are most familiar with, and most commonly used for food, the answers would most probably be most varied and amusing. Salt would, I fancy, first suggest itself to many, and to those whose training in physiology and hygiene has not been neglected, no doubt the claims of lime and iron and carbon, which in one form or another we use to build up bone and brawn, would be amply urged. But after all it is water, for water is a mineral, a fused mineral. You will find it described as such, along with quartz and topaz and the diamond in Dana's "Mineralogy," or in other treatises on stones. We usually think of minerals as solid things, such as metals and rocks and jewels and various chemical salts. But when we consider the matter a little we see that all these things if melted by strong heat are minerals still, only they are now in a fluid instead of a solid state. The difference between these minerals and water is that water gets fluid at a lower temperature than they do, and like quicksilver, stays melted at ordinary living heat. But in those old ice ages, which, one after another, have swept now over the northern hemisphere, bringing ruin and desolation, the natural and common condition of water was that of a solid—ice—as it largely is to-day out of doors in winter, when not kept fused by the stored up heat of the soil and rocks, or melted by the sun.—*Mineralogist's Monthly*.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

PETERSBURG, VA., Sept. 5, 1892.

E. C. LAIRD, Buffalo Lithia Springs, Va.

*My Dear Doctor:*—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alambic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,

BUFFALO LITHIA SPRINGS, VA.



## A DELUSION CORRECTED.

About this time of the year look out for an avalanche of advertisements, circulars, hand-bills and "gutter snipes," proclaiming to the public the wonderful efficacy of various "washes," "lotions," "balms," and other nostrums to be applied externally for the cure of pimples, "blackheads" and cutaneous eruptions of various sorts. The summer heat is bringing out on ladies' faces—and men's too—a fine crop of skin disfigurements, the seeds for which were sown during the past winter, when rich stimulating food was tempting, when the buckwheat cake abounded in the land and when the weather was too bad for sufficient outdoor exercise. And year after year, the same untruth is industriously put forth, and always finds believers of scant experience, that such things may be banished by external applications. Yet it is sheer nonsense. You might as well attempt to repair a leaky boat by painting its taffrail; or to make a glue factory smell sweet by tying ribbons on its chimney. The pimples and eruptions are upon the surface it is true, but their causes are deep down below in the vitiated blood, the torpid liver and the constipated bowels. To regain a smooth skin and a clear complexion it is requisite that health shall be restored to the vital organs, which are making known their diseased condition by those surface indications. Nature is calling for help. She is doing the best she can but has been too much weakened to do the work

## Delicious Drink.

### Horsford's Acid Phosphate

with water and sugar only, makes a delicious, healthful and invigorating drink.

Allays the thirst, aids digestion, and relieves the lassitude so common in midsummer.

Dr. M. H. Henry, New York, says: "When completely tired out by prolonged wakefulness and overwork, it is of the greatest value to me. As a beverage it possesses charms beyond anything I know of in the form of medicine."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

## "Turned Upside Down"

Is your home in this sad plight—many are and house-cleaning does it. Cold meals and no comfort, sour tempers and aching backs, hard work and too much of it, tired women and "mad" men—all from house-cleaning. And it's all needless. Don't make such a fuss over it. Take a little *Pearline*, and have it done easily, quickly and quietly. You'll have it done better, too—you won't have to rub the paint off to get the dirt off. You can save half your labor and half your time, if you'll clean house with *Pearline*—and everybody in the house will be thankful for it. Millions use nothing but *Pearline* for washing and cleaning

Turn  
the Key

On the peddlers and grocers who tell you "this is as good as," or "the same as" *Pearline*. IT'S FALSE besides *Pearline* is never peddled.

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JAMES PYLE, New York.

effectively alone. If the aid she requires is not accorded her the consequences will yet be infinitely more serious. Think for a moment how the little pimple is produced. Through one of the myriad of minute channels which carry to every atom of the body the life current, for maintenance and regeneration, an infinitesimal particle of foreign or effete matter is carried along until it reaches a point near the surface where it lodges being too large to pass farther through the slender canal in which it has been traveling. At once it becomes a source of irritation and inflammation, both by its own poisonous nature and its mechanical arrest of the blood flow in that channel. The inflammation induces suppuration and so in time having vitiated a sufficient number of particles about it to make at least a pimple, or perhaps a boil or a malignant pustule, it burrows through the surrounding tissues to the surface and escapes—or, to speak more exactly, is thrown out. The process of suppuration may be hastened and the sore, when made, may be healed by external applications. But reflect that this history of the public career of one particle may also be that of ten thousand more, generated by the same causes and all tending to the like—or a worse—end. In fact the presence of one such small disturber is evidence that he has a host of kindred. The only real cure for such a state of affairs is the taking of a thorough blood alterative, a medicine which will, by cleansing and vitalizing the assimilative, secretory and digestive organs, purify the blood and expel those noxious particles, which if allowed to remain in it, will cause almost all diseases. That efficacious medicine is Ayer's Compound Extract of Sarsaparilla, a preparation which is more potent than any other offered to the public for like service, yet perfectly safe, as it is beneficial to even the most delicate constitution. It and it only can be relied upon for a radical cure.

### HOW'S THIS?

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

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We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation by their firm.

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Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials free. Price, 75 cents per bottle. Sold by all druggists.

BE CORRECT.—Tramp (to Salem girl)—"Can't you give me a cup of coffee?" Salem girl—"No, I have only cups of china. I can give you some coffee in a cup."

## Fine Table Wines

From our Celebrated  
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The Chateau d'Orleans and O V Chablis are sold in glass only.



## GASOLENE AND ITS DANGERS.

Gasolene horrors are becoming alarmingly frequent in this State. The loss of property is bad enough, but the loss of human life and the permanent injury to body and limbs are matters for serious consideration. The gasolene stove has become almost as universal as the kerosene lamp. If there was need of legislative control of the use of kerosene, there is much greater necessity for regulating the use of gasolene, ten times more dangerous than kerosene—more dangerous even than illuminating gas, because the latter can be detected from its unpleasant odor long before the air in a room becomes so impregnated as to render it explosive.

Gasolene is one of the most dangerous and explosive substances produced from petroleum—in fact, it is one of the most dangerous of all explosives, for the reason that it is so generally handled, and for the further reason that the manufacturers of gasolene stoves give no warning nor instructions regarding the use of gasolene, but contravise knowingly and falsely strive to make the people believe that the use of these stoves is "perfectly safe." They know, as everybody knows who knows anything about the subject at all, that no process has yet been discovered that will change the explosive nature of gasolene. It cannot even be frozen sufficient to affect this explosive property. It will ignite and explode on ice. Its very explosiveness constitutes its sole value for heating purposes. The more volatile it is, the greater the combustible vapor producing quality. It matters not what methods to secure safety may be devised by the stove maker, its use cannot be "perfectly safe," for the explosive nature of the gasolene still remains, and that is never safe under any conditions when exposed to air and flame. It is more dangerous than gunpowder, dynamite, or nitro-glycerine, for they are exploded only by contact with flame, or concussion of the substance itself. An open can of gunpowder may set behind a kitchen stove indefinitely, without danger, if there be no contact with flame. Not so with gasolene. So volatile is that substance that a pint placed in a broad, open vessel on the floor of a closed room, in an hour would become entirely evaporated, and so impregnate the air, that on lighting a match it would explode with disastrous results. A pint of gasolene will render two hundred cubic feet of air explosive. Gasolene when confined will not explode. It must be mixed with a certain quantity of air, three to nine parts air to one of vapor of gasolene. Herein lies the danger. The use of gasolene and gasolene stoves is largely by ignorant persons who know nothing of the nature of gasolene. They handle it as though it was water, regardless of fires or lights that may be in the room.

It is true gasolene may be used with a minimum risk of danger, but there always exists the liability to negligence, carelessness, a leaking can, and a defect in the stove; the stop-cocks may become worn and leak, permitting a flow of gasolene faster than it is consumed; the generating burner may be extinguished by wind, when the gasolene will continue to flow, and explode on relighting the burner. The stove has not yet been made that renders it "perfectly safe" to use gasolene, and no stove maker will undertake to deny this statement. The danger lies in the gasolene itself, which is not safe to have about a house.

Certain precautionary measures may be adopted to render it less dangerous, to wit:

1st. Keep it in a well ventilated, cool place, inaccessible to children; never in any part of a dwelling.

2d. No unclosed vessel, as a pitcher, basin, or cup, containing gasolene, should be carried or placed within ten feet of a burning stove, lamp, gas or flame of any kind.

3d. Gasolene should never be poured from one vessel to another in any room in which there is an open grate burning, nor within ten feet of a stove in which is a fire, lighted lamp or a burning gas jet, as the current of air in a room is always toward a fire or burning lamp, and the vapor of gasolene will be carried in that direction and will ignite at a long distance.

4th. Never fill the reservoir of a stove when the burner is lighted. To do so, an explosion is inevitable. When not in use, close the cut-off between the reservoir and burner. This will prevent overflow from defect or leakage at the burner. If there be an overflow of gasolene, wipe it carefully up before lighting the burner. If the overflow should become ignited, smother it with a blanket or cloths. Do not throw water on it, as that spreads the gasolene and increases the danger. This is true of the accidental ignition of any quantity of gasolene or kerosene.

5th. If from leakage of a stove or vessel there is discovered an odor of gasolene in a room that has been closed, throw open the doors and windows until the air is changed before a match is struck or a flame of any kind is permitted therein.

6th. It seems absurd to give warning against kindling a fire with gasolene, but the record of self-murder from this cause is evidence that this superlative folly is perpetrated to an alarming extent. A more certain and horrible method of self-destruction can not be easily conceived.

7th. Keep gasolene in a tight vessel, and after drawing therefrom place the cap over the spout and close the neck and vent tube if there be one. This will prevent evaporation of the fluid. It is from evaporation, filling the air with an explosive vapor, comes the danger. To test this, pour a tablespoonful of gasolene on a plate, and see how near a lighted match can be brought to it, being careful to have your hand below the bottom of the plate.

Never attempt to clean gloves on the hand with gasolene near a flame or stove. The fire in the stove will draw the vapor from the gasolene through the crevices and ignite it like a lightning flash. The deodorizing of gasolene for toilet use does not change its explosive nature.

The law regulating the sale and use of kerosene does not apply to gasolene, except to prohibit entirely its use for illuminating purposes. The only protection, therefore, is in the care and eternal vigilance exercised in its use for heating purposes. Legislative control must and will soon become a necessity.—*Iowa State Board Health Bulletin.*

## DUTCH LIQUEUR SHOPS.

Curious and well worth visiting amongst the catering establishments of Amsterdam are various shops where the celebrated Dutch liqueurs are retailed. These shops, for the most part, are very old-fashioned in style and fittings—notably is that where the celebrated Wynand Fockink liqueurs are sold, in an old house in the Dam Straat. Another house of the same character, known as the "Drie Fleschjes" (Three Bottles), is situated in the Graven Straat. Lucas Bols has also a place in the Kalver Straat. The most interesting is certainly that of Wynand Fockink. The house in which it is situated looks to be one of the oldest in Amsterdam. The shop is roughly furnished with a wooden counter, and round the walls are placed huge barrels of the various liqueurs, which are served to customers in queer-shaped glasses, with broad, flat brims, very different from the petits verres to which the Parisian and Londoner are accustomed. These shops are greatly frequented during 'Change hours, and are quite a feature of Dutch life. The Dutch, by the way, seem to be very fond of liqueurs, especially of bitters. There is one drink called Pome-ranz, which is as bitter as the Amer-Picon of which the French are so fond, but Maag-bitter or Boonekamp are the favorites. People who like sweet liqueurs prefer the "Half en Half," which is a mixture of equal quantities of Cognac and of Curacao. At certain hours in the day the waiters in the Dutch cafes get more orders for "en half en half" than for any other kind of drink. Absinthe, I am glad to say, seems to be almost as unknown in Amsterdam as it is in London. My friend, who can't dine comfortably unless he has previously taken a Pernod, had the greatest difficulty in finding a place where they sold it, nor shall I forget the expression on his face when the waiter brought him the stuff ready mixed with water. The absinthe drinker, it will be remembered, always mixes his own drink, considering this more than half the pleasure afforded by the consummation.—*Mineral Trade Review.*

UTILIZING HEAT.—The fire which heats a lower room in a house will warm the one above it also if you run the stovepipe through the floor and into a "drum" in the upper room. The drum should stand on three feet and have holes to give it the right draught. In houses that do not have these drums a large part of the fuel is wasted.—*Sel.*

"It is  
the mind that  
makes the man,"

said Watts, but modern ethics deny this, and give the credit to the tailor. It is questionable, however, if either are right.

Food  
has some claims

in this respect, therefore those parents who would build up the physique of their children pay strict attention to their diet. Children are all fond of pastry; for this to be healthfully prepared,

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## PUMICE STONE.

We often hear it remarked, and particularly after the eruption of a volcano, that pumice stone ought to be plentiful and cheap, as quantities must have been ejected during the volcanic disturbance. As a matter of fact, however, none of the white stone in general use is obtained from active volcanos. It comes from deposits of the article discovered in one or two quarters of the globe, the best of which is at present to be found in the island of Lipari, situated in the Tyrrhenian sea. The island is mountainous in character and consists of tuffa and lavas and highly silicious volcanic products. The district where the stone is found is called Campo Blanco or Monte Petalo, 1,500 feet above the level of the sea. After riding a considerable distance, partly along precipitous paths sufficiently dangerous to be interesting, and partly through vineyards and over grassy plains, one almost suddenly comes upon a seemingly snowclad narrow valley, inclosed by hills, also quite white, and the whole glaringly bright on a sunny day. Into these hills workmen are ceaselessly digging deep burrows, working within by candle-light. In their excavations they come across many lumps of pumice stone, which are placed in baskets, subsequently being conveyed along the valley to the seashore, where small boats are loaded and sailed to the seaport near by, where the stone is sorted, packed and shipped to distant parts, either via Messina or Leghorn.

## ERRORS IN AMERICAN ANALYST

CORRECTED BY A SUBSCRIBER.

In the AMERICAN ANALYST issue of July 1 there appeared the following:

"Grass Widow"—The word means grace—a widow by courtesy (French grace, Italian grassa).

A popular error: The term is used in old German and Scandinavian, which cannot have borrowed from French, and the variant "Straw-widow" in German shows that "grass" is really grass. It is used by old English writers in such a way as to show its real meaning. The term originally meant, not a wife *deserted* by her husband, but one whose husband was on a journey or otherwise absent for a time, and the implication is that she is "out at grass," like cattle—that is, temporarily loose from the yoke, and free to wander about at will or enjoy herself unfettered.

"Baker's Dozen."—Thirteen. When a heavy penalty was inflicted for short weight, bakers used to give an extra loaf to make sure of giving good weight.

More than doubtful; especially as trade guilds and governments supervised weights sharply. It is said to have arisen from the distributors of bread to customers receiving one loaf extra to each dozen as pay for their labor. Another explanation is that it arose from competition. But it is in fact only one of a most curious list of meanings the word "dozen" early took on. Centuries ago it lost its proper meaning of "twelve" (Italian *dozena*), most people knowing nothing of etymology, and came to mean simply a *set*; the number of which varied and still varies inconceivably from trade to trade, hardly any two having the same usage (that is, in orders from wholesalers to manufacturers), and ranging from *four to forty-eight*! Why any given number was adopted in any other trade is just as mysterious as why the bakers adopted thirteen.

Of course, I am not blaming the ANALYST for clipping this bunch of definitions as it stood, but these things are nearly always full of blunders.

F. M.

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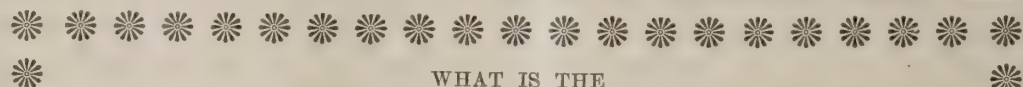
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**A CORRECTION.**

*American Analyst:*

GENTLEMEN—In your publication for August we notice little article under business notes, page

189, on our Acme sliced beef. You say these goods are packed in cartons; this would imply they were in paper boxes, which is a slight error, as we pack them in tins. If it is a possible thing we would like to have you correct this statement, as the goods are never packed in cartons, but always in tin, and the mention of packing the goods in paper does us an injustice. We remain, very truly yours, J. W. BEARDSLEY'S SONS.

"Begorra," said Bridget, as she opened a bottle of champagne for the first time, "the blamed fool that filled this quart bottle must have put in two quarts instid av wan!"

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A synopsis of the contents will give the reader a very good idea of the scope and utility of the book:

Part I.—Treats of definitions and classifications, the boiler, the engine, the frame and running gear, friction, bearing metals, lubricants, continuous train brakes, and construction of the air brake.

Part II.—Accidents and emergencies, boiler, flues, boiler attachments, dry pipe and throttle, steam pipe, steam chest, slide valve, cylinder, the piston, the exhaust and its signs, cross head, crank pins, filing, fitting and lining brasses, the rods; together with full information about pounding, slipping eccentrics, broken eccentrics, straps and rods, broken link hangers, rocker arms, broken springs, hangers and equalizers, broken or lost tires, broken wheels, broken axles, air pump and brake, starting and reversing, lubrication, and general duties in time of break down.

Part III.—Steam: expansion and cut-off.

Ernest Michaux, a French blacksmith, is claimed to have led, through the invention of a velocipede, to the discovery of the bicycle. A monu-


ment to his honor is about to be erected at Bar-leduc, his birthplace.

In the old days of kings it was only the regular court fool who was privileged to speak all he thought. It's no different now as only the fool will speak all he thinks.

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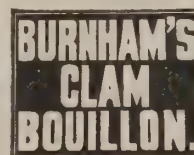
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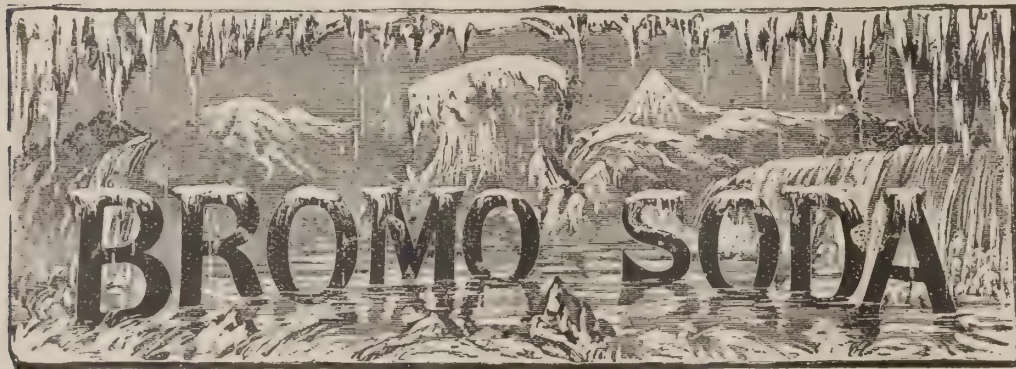
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

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Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

SEPTEMBER 15, 1893.

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### NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

Subscriber: Where is the joke in the enclosed?

A.—Put opposite the following three words, your definition, then look in a dictionary and you will see the joke. "Lurid," "Holocaust," "Buxom."

Housewife: Please tell me what is the matter with this sample of meal.

A.—It is wormy.

Medicus: What is the difference between Acitavilid and Antifebrin.

A.—None that we know of, except that the latter being a patented German remedy costs several times as much.

### INTERESTING QUESTIONS WELL ANSWERED.

The Portland *Transcript* answers the following questions:

What is the origin of the custom among a good many people of scratching their heads when endeavoring to collect their thoughts? Does it have any realeffect?

A.—The scratching of the head undoubtedly stimulates the brain. It is a fact that stimulation of the branches of the fifth nerve seems to increase the circulation in the brain. The gustatory branches of this nerve, when stimulated by the smoke of tobacco, supply the brain with more blood, and in the same way the cutaneous branches are stimulated by scratching the head. The same effect is secured by stroking the moustache or beard, or pressing the forehead or eyes, or by striking the nose with the forefinger, as practiced by the Germans.

What is the origin of the music of the British National Hymn? Who was the composer?

A.—The music was that of the national hymns of all the early German tribes as far back as history extends. Its composer is unknown. England got it from that source and since we trace our ancestry from the same people, we have as good a right to the air of our "America" as the English have to that of "God Save the Queen."

What is the origin of the word tariff?

A.—On the coast of Spain, near Gibraltar, is a seaport town named Tariff, which took its name from that of a Moor who conquered the country in that section. At this town the Moors collected duties on merchandise entering the country or passing through the Strait from the Atlantic until 1292, afterwards the Spauiards threatened to continue the same policy and this affected the commerce of England. Hence the origin of the word.

Can it be true that the law of China *compels* its subjects to wear the "pigtail," which seems to be neither ornamental or useful.

A.—The Tartars' braided queue came into use with the Mantchu dynasty and was imposed upon the people by their conquerors as a badge of servitude. Curiously enough it has become a matter of national pride and he who removes his "pigtail" suffers social ostracism at least. Whether the law of the Tartar conquerors is still enforced by their descendants, the present reigning dynasty, we cannot say.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### BRANDIED PEACHES.

Put the peaches in boiling water for a few minutes, when the skin will peel off easily. Make a syrup of half a pound of sugar and half a teacup of water for each pound of peaches. Skim as the scum rises in boiling, then put in the peaches and boil them gently until tender—no longer. Take them out carefully and fill four cans or jars. Remove the syrup from the fire and add to it half a pint of best brandy to every pound of peaches.

#### BAKED CORN.

Grate one dozen ears sweet corn, one cup milk, small piece butter, salt, and bake in pudding dish one hour.

#### PICKLED BEETS.

Boil the beets two hours. When cold peel and slice, put into a jar and cover with vinegar prepared in the following manner: Boil half an ounce of cloves, half an ounce of peppercorns, half an ounce of mace, and half an ounce of ginger in a pint of vinegar. When cold, add another pint.

#### CORN SOUP.

Split the grains of one dozen ears of corn, and scrape. Boil the cobs in enough water to cover them for ten minutes, strain this water and use one quart. Add to it slowly one quart of cream, then the corn. Season and cook fifteen minutes. Milk can be used instead of cream, thickened with one tablespoonful each of butter and flour melted together. Serve at once.

#### BROILED TOMATOES.

Cut large tomatoes in half, crosswise; put on gridiron, cut-surface down; when well seared, turn and put butter, pepper and salt on, and cook with skin-side down until done.

#### BROILED OYSTERS.

One quart of the finest and firmest oysters that can be procured. Half a cup of very dry bread crumbs or pounded crackers sifted. Pepper to taste, and half a cup melted butter. Dry the oysters by laying on a clean cloth. Dip each in melted butter, and roll in cracker crumbs. Broil upon one of the wire gridirons as they hold the oysters firmly, and can be safely turned. Five or six minutes should cook them. Serve on toast.

#### SWEET PICKLED WATERMELON RINDS.

A writer in *Harper's Bazar* gives the following directions:

Peel the rinds with a sharp knife that will take off the green skin evenly. Trim off also every trace of the pink flesh of the fruit, because it is too juicy to make a firm, crisp pickle. Then cut the strips of rind into small pieces, two or three



inches long, and placing them in a large earthen dish, sprinkle them lightly and evenly with salt. Cover the dish and let it stand over night. In the morning drain off the water that will have formed, rinse the rinds in cold water, and cook them in a steamer until a broom splint will readily pierce them. Cooking the rinds by steam is an easy method, as they are less liable to burn than when cooked in the spiced vinegar. When the rinds are tender, take them out carefully with a skimmer and put them in a stone jar.

Take good cider vinegar for the basis of the pickle. Allow a pound of sugar to a pint of vinegar, and add also half an ounce of stick cinnamon broken into inch pieces, and a half teaspoonful each of whole cloves and blades of mace. The whole amount of vinegar, sugar, and spices must of course depend on the quantity of rinds to be pickled, but a quart of vinegar is usually sufficient for the rinds of a medium sized melon. Boil the vinegar, sugar, and spices together vigorously half an hour, skimming off the froth, and pour the pickle boiling hot over the rinds. Press the rinds down under the pickle by means of an earthen plate or saucer, fasten the cover on, and tie a cloth over the whole. These pickles will be ready for use in two weeks.

#### SHIRT POLISH.

White wax.....2 oz.  
Spermacei.....4 "  
Stearin.....1 "  
Ultramarine blue.....3 grs.

Melt together, and let cool.

For doing up a dozen shirts, put a piece the size of a hazelnut in the hot starch, and mix. Finish with a hot iron, the usual way.

#### PORK FLAVORING.

White pepper.....3 oz.  
Jamaica ginger.....3 drs.  
Black pepper.....3 "  
Ginger.....3 "  
Capsicum.....2 "  
Mace.....1 "  
Cloves.....10 grs.

All in fine powder and mixed. The addition of a little nitre helps to retain the bright red color of the meat.

**POLISH FOR PATENT LEATHER.**—One part of linseed oil and two parts of cream, mix and warm in a jar surrounded by hot water; cleanse the leather, and apply the mixture with a flannel, then polish with a soft dry rag.

**WEATHER GLASS.**—Nitrate of potash and sal ammoniac, of each half a dram; camphor, two drams; rectified spirits of wine, two fluid ounces. These ingredients are to be put into an old-fashioned eau de cologne bottle or tube of glass 8 or 10 inches long, and about  $\frac{3}{4}$  of an inch in diameter, and the mouth covered with perforated bladder. The following are the changes which are observed. If the weather promises to be fine, the insoluble matter will settle at the bottom of the tube, while the liquid remains pellucid; but previous to a change for rain the compound will gradually rise, the fluid remaining transparent. Twenty-four hours before a storm, or very high wind, the substance will be partly on the surface of the liquid, apparently in the form of a leaf. The fluid in such case will be very turbid, and in a state resembling fermentation.

**BROWN HAIR DYE.**—The following is a fair replica of the many "Renewers" now on; it is not

an immediate dye, but darkens the hair gradually by exposure:

Acetate of lead . . . 2 drams.  
Hyposulphite of soda . . . 1 oz.  
Water . . . 14 fluid oz.  
Glycerine . . . 2 fluid oz.  
Essence of rose . . . 10 drops.

Dissolve the acetate of lead and hyposulphite of soda in separate portions of water; filter separately; mix the solution and add the glycerine.

**CHEAP LIVING.**—Living is cheap at Malta, at least, such living as the Maltese are content with.

Mr. Hardy, late chaplain to the forces in the island, tells us in his pleasant paper of "Recollections of Malta," in the *Sunday Magazine*, that there is a Maltese coin of the value of the fourth part of a farthing, which will buy a few figs or prickly pears, or a bunch of grapes, on which a laborer can live and do the hard work of coaling ships. If to this he can add a little cheese made of sheep's milk, and Sicilian wine of a "brand" that is bought at the rate of 2d. a quart, he "simply banquets." Tobacco, too, not being taxed, is cheap. A friend of Mr. Hardy's gave a Maltese "masher" an English cigar. He hinted that it was not a good one, and muttered something about "cabbage." The giver suggested that the Maltese did not like it, to which the latter replied, "You see, I am very particular about what I smoke. I never give less than a penny for eight cigars." Nowhere, says Mr. Hardy, is poverty more good-humoredly accepted.—*M. W. Trade Journal*.

Iron stains (rust) can be removed from cotton goods by a moderately strong solution of oxalic acid or of sodium bisulphite, and stains of fat oil by washing with soap, while those of mineral oil cause much trouble. When oil and rust stains occur together they are washed out in 1 pt. soft soap, 1 pt. glycerine and 3 pts. water.

## ADULTERATION.

#### BEAD OIL.

In the liquor trade anything added to commercial spirits to cause them to carry a "bead" and to hang in pearly drops about the sides of the glass or bottle when poured out or shaken is called "beading," the popular notion being that spirit is strong in proportion as it beads. The object is to impart this property to a weak spirit, so that it may appear to the eye to be of the proper strength. Various formulas for this purpose are current among bartenders and dealers in liquors, many of which are absolutely ineffective. From *Cooley's Encyclopedia* the following types of those usually employed are taken:

(1.) Oil of sweet almonds and sulphuric acid, of each, 1 oz.; rub them together in a glass, porcelain, or wedgewood mortar, or basin, adding, by degrees, of crushed lump sugar, 1 oz.; continue the trituration until the mixture becomes pasty, then add gradually sufficient alcohol to render the whole perfectly liquid; pour it into a quart bottle and wash out the mortar twice or oftener with a little strong spirit until about one pint of alcohol has been employed, adding the washings each time to the bottle; lastly cautiously shake the bottle (loosely corked) until admixture appears complete and set aside in a cool place. For use, this compound (after agitation) is thrown into a two-gallon measure or can which is then filled from a tap with the spirit to be "beaded" when the whole is thrown into the cask and the measure washed out by refilling

and returning it several times; after which the contents of the cask are well "rummaged up." Gin is usually "fined" a few hours afterward, but it is better not to add the finings for two or three days. Other spirits are allowed to become "fine" by simple repose. This quantity is supposed to be sufficient for one hundred gallons of any spirit but it is more commonly used for about eighty or eighty-five gallons.

(2.) Sulphuric acid, 2 to 3 oz.; alcohol, 1 pt.; cautiously agitate them together in a loosely corked bottle; in two or three hours add another pint of alcohol and again agitate. It will be fit for use in a week, and is added to the spirit in a similar manner to that given in the above formula.

(3.) Sulphuric ether,  $\frac{1}{2}$  lb.; alcohol 1 qt.; may be used at once, as before; but if otherwise, should be kept like the last closely corked, and in a cool place.

(4.) Soapwort root *saponaria officinalis*, bruised or rasped small, 1 lb.; alcohol and water, of each  $\frac{1}{2}$  gal.; macerate in a covered jar, with occasional agitation, for about eight or ten days, strain with pressure, and after a few days repose decant the clear portion.

As remarked by the authority quoted, the above formulas are not injurious when employed for "beading," since the quantity employed is much too small to injure the wholesomeness of the liquor. Their use, however, is a fraud, from the fact that they are made to disguise the presence of from 10 to 12 per cent of water, which is thus sold at the price of the spirit. It is also said that beyond a certain degree of dilution, they fail to produce the intended effect, the bubbles becoming "soapy" and without the requisite permanence. The addition of a little powdered white sugar ( $\frac{1}{2}$  oz. to 1  $\frac{1}{2}$  oz. per gal.) increases the efficacy of all of them. It may be dissolved in the water and added to the liquor.

## INVENTIONS, SCIENCE, ETC.

#### PILSENER BEER.

On October 5, the town of Pilsen, in Bohemia, where the famous Pilsener beer is brewed, celebrated the fiftieth anniversary of its great brewery. Pilsen is a very old place—one of its churches was built six hundred years ago—and it must not be supposed that beer was unknown there until the middle of this century. On the contrary, some citizens of Pilsen have had the right of brewing beer for sale for many centuries. In 1842 that privilege extended to 257 citizens and each could brew sixteen barrels, no more. People drank beer in one house till the stock was exhausted, and then went to the neighbors for the next sixteen barrels. But in 1842 these privileges were bought up, or the holders took stock in a common brewery enterprise. About 3,600 barrels were brewed then. In 1891 10,500,000 gallons were brewed, of which America imported 1,500 gallons.

#### AN IMPROVED PUMP.

In a new hydraulic pump just being introduced in some of the English collieries, two columns of water are substituted for the ordinary pump rods connecting the steam engine with the pump, and which may be placed any distance from each other. Advantage is taken of the fact of water being practically incompressible, and that if a pipe is filled with water a piston at one end will, if pushed forward, propel a piston placed at the other end in the same direction; with two



pipes and four pistons a reciprocating motion is obtained. The arrangement consists of a hydraulic cylinder in which works a piston or ram called the power ram, which is moved by a crank driven by a steam engine. At the pump there is a cylinder exactly the same as that at the engine, in which is a piston or ram attached to the plunger of a double-acting pump, and a pipe connects the end of the power cylinder at the engine with the end of the motor cylinder at the pump. When both cylinders and pipes are filled with water and the water cylinder is moved by the engine the water in the power cylinder is forced through the pipe into the end of the motor cylinder at the pump and the motor cylinder is moved. In a like manner when the power ram at the engine moves, that at the pump responds, carrying the pump plunger with it. Thus the pump plunger is moved backward and forward in the same way as if there were a direct connection by means of rods between the steam engine and the pump.

#### USEFUL AND PRACTICAL NOTES.

[From the *National Druggist*.]

The best Lubricator for Sewing Machines.—The *Bayerische Gewerbeblatt* says that lubricating petroleum to which 10 per cent of paraffin oil has been added makes the best lubricator for sewing machines and similar light machinery. Another authority gives the following: Lard oil, 1 part; sperm oil, 2 parts; paraffin oil, 2 parts.

Fire-Proofing Fluid.—A process has recently been patented in France for producing "Anti-Ignifere," a liquid which renders clothing, etc., dipped in it fire-proof. The official description is as follows: Take 40 gm. boric acid, 30 gm. sulphate of aluminum, 17 gm. tragacanth, and 9 gm. silicate of potassium, and dissolve them in 450 gm. of water at 90 deg. C. Make another solution composed of 30 gm. nitrate of sodium, 7 gm. ammonium borate, 17 gm. ammonium phosphate, and 400 gm. of water. Mix the two solutions, let stand until precipitation has subsided and decant the clear liquid. The article to be fire-proofed is placed in this liquid and left for forty or forty-five minutes at a temperature of 35 deg. C.

Solution for Charging Fire Extinguishers.—Hunkel recommends the following as the best solution for charging hand grenades or other similar forms of fire extinguishers: Make the following solutions in separate vessels: (1) 2 parts of ammonium chloride in 200 parts of water; (2) 3½ parts of burnt alum in 100 parts of water; (3) 30 parts of ammonium sulphate in 50 parts of water; (4) 20 parts of cooking salt in 400 parts of water; (5) 3½ parts of sodium carbonate in 50 parts of water; (6) 45 parts of water glass. Now mix these solutions in the order named, and while the mixture is still turbid and yellow add 200 parts of water. Let stand, and when the precipitate has subsided decant the clear liquid and fill into hand grenades or bottles of thin glass.

It's said the weeping willows of America all sprung from a slip sent over by Alexander Pope from England. The statement has the same proof as has the claim that imitation cherry wood is invariably produced by grafts from the original Washington cherry tree.

A company is being organized to build on the Back Bay, Boston, a refrigerating plant, from which pipes filled with a continual flow of cold air will be laid throughout that section of the city. These pipes will connect with a coil in the house of everyone who desires to use it, and it will be arranged so that the temperature can be raised

or lowered as desired. It is estimated that this will save annually 20,000 tons of ice, and do away with its unhealthfulness, inconvenience and waste. The service will cost no more than the ice would cost and has the advantage of making a room cool and dry, whereas ice makes it cool and damp. This cold air can be used in food chests, wine cellars and sleeping and living rooms.

Professor Jowett's study windows look into the "Broad" at Oxford. Everybody knows that he is always at work. Coming with his party (chiefly American tourists) under these windows, says an exchange, the local guide would begin: "This, ladies and gentlemen, is Balliol College, one of the very oldest in the university, and famous for the hereditation of its scholars. The head of Balliol College is called the master. The present master of Balliol is the celebrated Professor Benjamin Jowett, Regius Professor of Greek. Those are Professor Benjamin Jowett's study windows, and there" (here the man would stoop down, take up a handful of gravel and throw it up against the panes, bringing the poor professor, livid with fury, to the window), "ladies and gentlemen, is Professor Benjamin Jowett himself."

The nickel in the slot principle has been tried in the English railway carriages to give the passengers electric light for reading. The mechanism of the lamp is contained in a small box. Dropping a penny and pressing a knob gives a tiny but sufficient illumination for half an hour, and another penny will keep the machine working for another half hour. This is an ingenious contrivance, but English travelers would probably be better pleased with the methods of the best American lines, which give all their passengers plenty of light to read by for nothing. We don't refer to street cars.

INDESTRUCTIBLE INK for marking casks, bales, sackings, packages, etc.—Bruised asphalt, 8 oz.; balsam of copaiba, 16 oz.; spirits of turpentine, 12 oz. Melt the asphalt in an old iron pot or saucepan over a gentle fire, and then add the balsam, stirring well; remove from the fire and stir in the turpentine, and place in a well-corked stone bottle for use. This liquid may be thinned with a little turpentine, and forms an indestructible ink capable of resisting salt water, wear and tear, age, etc.

IMITATION EBONY.—Oak wood may be made to resemble ebony by covering the surface repeatedly with a hot saturated solution of alum for forty-eight hours, and then brushing over with the following logwood decoction: Boil 8 oz. of logwood and 8 oz. of water, filter through linen and evaporate by gentle heat to one-half its original measure. To every quart of this add 10 to 15 drops of saturated solution of indigo, perfectly neutral. After applying this dye to the wood, rub the latter with a saturated and filtered solution of verdigris in hot concentrated acetic acid, and repeat till the desired intensity is obtained. Oak thus treated is said to be a close and handsome imitation of ebony.

Platinum is the most infusible of all metals, melting only before the oxy-hydrogen blowpipe, or in a very powerful blast furnace. Its fusing point is 1770 deg. C.

Photograph plates are now coated by machinery.

The most costly of the metals is didymium, which sells at \$4,500 a pound.

The men employed in a Michigan basket factory make a grape basket apiece each minute.

The life of a locomotive crank-pin, which is almost the first thing about an engine to wear out, is 60,000 miles, and the life of a 33-inch wheel is 66,733 miles.

Bricks made of plaster of paris and cork are now used in the construction of powder mills. In case of explosion they offer slight resistance, and are broken to atoms.

The use of cork for bottle-stoppers was the invention of a blind monk who was employed in a vineyard attached to a monastery. Previous to that time bottles were sealed with flax soaked in oil.

Crosse & Blackwell, of London, the famous pickle house, which dates back to 1705, has been turned into a joint stock company, but no shares have been offered to the public.

## HYGIENIC.

### SANITARY KILLING OF CATTLE.

A QUESTION IN HYGIENE.

The Jewish authorities in Switzerland have obtained the opinions of a large number of distinguished physiologists and veterinary surgeons on the question—from a humanitarian and hygienic point of view, respectively—of slaughtering animals by the manner peculiar to that race. The answers in response to this question have, it appears, been unanimous in the belief that the method in question is not more cruel than is any other—some, indeed, considering it less so. Hygienically, some of the physiologists have further urged in its favor the hygienic properties of the meat, which, deprived of that factor so prone to decomposition—the blood—keeps longer, and can, they consider, be better dealt with by the stomach and other organs of digestion; and it is further urged in this connection that the excretive materials contained in the blood rapidly give rise to chemical changes resulting in the production of toxic ptomaines, which, by their repeated action, injure the constitution. The Jewish law forbids the people to eat any other but the bloodless flesh of animals which have been killed by their method of cutting the throat, in which a single gash divides the carotid arteries and jugular veins; it is also necessary that no other lesion be produced in killing the animal; otherwise its flesh becomes "trifha," forbidden to be eaten. In regard to the use of anaesthetics, the objection is urged of the impossibility of being certain that the animal is in the enjoyment of full vitality and perfect health at the time of killing.

### HOUSEHOLD DISINFECTION.

One of the commonest household disinfectants is probably that sold under the name of crude carbolic acid, which consists of a mixture of pure carbolic and cresylic acids, and is of a reddish-brown color. Its strong, tar-like odor renders it a not disagreeable deodorant, but its solubility in ordinary water, which is in inverse ratio to the amount of cresylic acid present, is, in a sense, a considerable drawback; it mixes, however, much more freely with hot water, and for all practical purposes the solution thus produced is sufficiently useful. Patients in some cases object to the smell, and in these instances some other disinfectant is, of course, to be resorted to, but this is



not the fact with the majority, while its inexpensiveness renders it acceptable in public institutions, offices, railway stations, and dwellings, where economy is an object. A refined preparation of the article, known as crystalline carbolic acid, is more expensive, but of much more easy application; it mixes readily with warm water, so that a saturated solution is readily made.

#### HEALTH OF WORKMEN AT HIGH SUMMITS.

Some notable facts are furnished by the experience of the workmen engaged in constructing the new Central Railway over the mountains in Peru. The line starts at Lima, in altitude 12 degrees, and the summit tunnel of this line at Galeria is at the height of 15,645 feet. It appears that the workmen, up to the height of 800 to 10,000 feet, do about the same relative quantity of work as at the sea level, provided they have been inured to the height or brought up in the country; at 12,000 feet the amount of work deteriorates, and at 14,000 to 16,000 feet a full third had to be deducted from the amount that the same men could perform at sea level. Owing to the absence of malaria, the percentage of efficient labor at the greatest elevation has been a very high one. Men coming from the coast were not found capable of doing efficient work for about two weeks on an average when taken to high elevations, the capacity gradually increasing and reaching its maximum in a few weeks or months, according to the constitution of the individual. The majority of the laborers being Cholos, or Indians born in the Sierra, were found incapable of doing effective work on the coasts or in the warmer altitudes without a long course of acclimatization. Sudden changes, too, from the Sierra to altitudes of from 2,000 to 5,000 feet have resulted in sickness and fever.

#### THE CARE OF THE HAIR.

Too much emphasis cannot be laid on the fact that the hair should be cared for intelligently, appropriately and regularly. It should be cleaned in tepid water once every week, and once a month—presuming there be no disease like abundant dandruff or any other scalp trouble—with a very mild solution of some simple alkaline substance like borax or bicarbonate of soda.

It is always better to wash the scalp and hair before retiring, as the opportunity for drying is better, especially if the hair is thick or heavy, and there is less likelihood of taking cold. Many of the finest suits of hair we have ever seen have been preserved and kept beautiful by the simple use of tepid or cool (not icy) water, the year round at morning toilet. As with everything else, so with the hair, good judgment must be the guide. The fine comb, as an article of use for the hair, should never be thought of; the centre of a hot fire is the place for a fine comb. A good brush is the great tonic for the hair.

#### DRESSING THE HAIR.

Some writers utterly prohibit the use of oil or grease on the hair; others unduly magnify the advantages of its constant applications; but between abstinence and unlimited use is the true plane. Some hair is harsh and dry, do for it what you will; such hair requires the occasional application of oil; other hair is always oily and "just right;" for the latter very little dressing is required.

#### PRESERVING THE HAIR.

To keep a "heavy head of hair" is the desire and delight of every one. The law of heredity excepted, there is no reason why so many should

be bald or have thin or "patchy" hair. Carefully attending to the hair, having it trimmed at regular intervals, keeping the scalp clean, never allowing a barber to use other than your own brush and comb in arranging your hair, avoiding the constant wearing of a hat—these are all contributing influences towards the preservation of the hair "e'en down to old age" and the grave.

#### DISINFECTION THAT DOES NOT DISINFECT.

The value of any disinfecting process can be estimated only on the base of experiments with the known germs of a given disease. The random directions which were vaguely followed before Koch's accurate work involved not merely an enormous waste of labor and money, but gave no guarantee that their object was really obtained, that is to say, that the germs were killed. Since the painstaking researches by Koch and his pupils, and continued in this country by Sternberg, Prudden and others, we know just how to destroy the germs of a given disease in the cheapest and most efficient manner. It is, therefore, a matter for severe censure if vague and inefficient measures are used by parties whose business it is to know what has been done in this line.

The frequent references of the public press to fumigations with sulphur show that many sins are yet committed in the practice of disinfection. No more flagrant instance, however, of inefficient disinfection has come to our notice than the directions issued by the New York Board of Health and reprinted without comment by the *New York Medical Record*.

A sulphate of iron solution in the strength of 1-2 parts to 8 of water is advised for the disinfection of cellars, yards, stables, cesspools, sewers and so on. The accurate work above referred to has proven beyond doubt that this substance has feeble disinfecting powers at the best, and is altogether valueless in the manner recommended by the board.

A zinc solution made by dissolving 4 ounces of sulphate of zinc and 2 ounces of salt in 1 gallon of water is directed to be used for disinfecting clothing, bed linen and so on. It has never been shown by any one that this has any disinfecting power whatsoever. In the latter part of the circular it is directed to boil clothing in this solution. While this of course is an efficient measure, what advantage is there in this fluid over boiling water? It has been shown that boiling soda-solution acts more quickly even than pure water, but no such proof has ever been given of the efficiency of the zinc solution.

Corrosive sublimate solution, 1 to 1,000, is likewise recommended. But the strong germicide properties of this substance are counterbalanced by its tendency to form precipitates with albuminoids and other organic material, and direct experimentation has shown that it is not a reliable agent for the disinfection of discharges. In reference to this as well as to the other substances mentioned in the circular we fail to find any mention of the importance of time in the process of disinfection. No one not fully familiar with disinfection methods could obtain reliable results by following the loose directions given.

The circular ends with a totally unjust praise of sulphur fumigation. Over and again it has been shown that sulphurous acid is not at all germicidal when dry, and that even when moist it permeates larger articles very imperfectly. Under the best conditions attainable on a small scale in the laboratory sulphur fumigations are unreliable, while under the conditions existing in ordinary rooms the concentration of fumes

sinks speedily to such a level that the procedure is totally valueless.—*Journal American Medical Association*.

#### THE BEST TIME TO EAT FRUIT.

It has generally been accepted that the best time for indulgence in fruit is in the morning, and before any other foods have been eaten. Dr. Sequin, an eminent member of the profession, dissents from this, and says, in substance, that one of the worst things in the popular dietary is the eating of an orange or two before breakfast. Here is a quantity—from two to three ounces—of sweet acid liquid introduced into the empty stomach. It hinders the free flow of gastric juice; and then in cases of lithæmia, oxaluria, and nervous dyspepsia, this liquid is of such a nature as to increase the formation of oxalic acid.

"I wish that physicians would everywhere exert their influence to banish this custom—which is a misunderstood transplantation of a Cuban custom (Cubans take only coffee after their morning fruit, and do not eat breakfast until eleven or twelve o'clock), practiced nowhere else in the civilized world—from among our people. The only physiological preliminary to breakfast, in my opinion, should be a glass of water, of ordinary temperature for healthy persons, and hot for dyspeptics."

There is no disputing what Dr. Sequin has said. And all other fruits have much the same effect as the orange. Hence, the old custom must go, and the rule be fixed to eat fruit only after other foods have been eaten and digestion is well under way.

#### STRAIGHTEN THE BACK.

One of the greatest and most common deformities of the day, observes a writer in the *Boston Transcript*, is one that with care and attention can be remedied. It is the round-shouldered or stooping habit. Many of the best natural figures show this tendency to stoop, while in the narrow-chested it is marked to a painful degree, and yet by raising one's self leisurely upon the toes in a perpendicular position several times a day this deformity could be easily rectified. To do this properly one must be in a perfectly upright position, the arm dropping at the side, the heels well together and the toes forming an angle at forty-five degrees. The rise should be made very slowly and from the balls of both feet, and the descent should be accomplished in the same way, without swaying the body out of its perpendicular line. The exercise is not an easy one, but may be accomplished by perseverance and patience. It can be modified, too, by standing first on one leg, then on the other. Inflating and raising the chest at the same time is a part of the exercise, and if persevered in, will ultimately show an increased chest measurement, development of lung power and perfectly straight and erect figure.

#### PURIFICATION OF DRINKING WATER.

By experiments recently performed in the Pasteur Institute in Paris it has been demonstrated that drink-water may be completely freed of bacilli by addition of citric acid (one gram per liter). By adding six decigrams of citric acid, which, moreover, imparts a pleasant taste to the water, the cholera bacilli were killed after a quarter of an hour; typhus bacilli required nine decigrams. It is well known that citric acid may be found in all pharmacies at a very cheap price. It also agrees perfectly well with an addition of wine. It will be remembered that Koch had demonstrated long ago that the cholera bacillus is killed by acids.—*Der Pharmaceut*.



## MEDICAL.

### CORROSIVE SUBLIMATE AS A GERMICIDE.

Extensive researches made upon corrosive sublimate by Dr. McClintock, of London, show that though the substance is not a valuable germicide—germs withstanding its action for some time—it proves to possess, of all substances, the greatest antiseptic power, so that a germ treated with the article, unless perchance it gets into the blood, or is exposed to very exceptional conditions, is powerless to grow; that is, it is probable that a spore of subtilis or anthrax treated with sublimate, 1 in 1,000, and then thrown on the soil or into water, will not germinate, owing to the fact that the capsule of sublimate surrounding it is not removed. It is found that corrosive sublimate forms with cellulose, as cloth, filter paper, etc., with silk, with albuminous bodies, with some part of bacteria, probably the envelope, a chemical compound that cannot be removed with any amount of washing in water. Thus sublimate when acting on a germ forms a capsule around it that protects the germ for a time from the further action of the sublimate, and in turn forms an impenetrable barrier to the growth of the organism unless removed. This barrier may be removed with salines.

### FEVERS OF HOT COUNTRIES.

Dr. Domingos Freire, whose researches on yellow fever have attracted much attention, has demonstrated the fact that the bilious fever of hot countries is a distinct disease from yellow fever, that the symptoms are entirely different, and that the bacteriological causes are also distinct. As regards symptoms, he finds that in yellow fever there are three separate periods, namely, a period of hyperpyrexia, which lasts for twenty-four or forty-eight hours; a short and variable period of apyrexia, and a recurrent hyperpyrexia, during which the phenomenon of hemorrhage, and the ataxo-adyamic symptoms appear; the icterus comes on during the second or third period, and sometimes even only after death. Yellow fever is contagious, and does not usually recur; there is no enlargement of the spleen except where there has been antecedent malaria, and it is entirely intractable to the use of quinine and to salts. In bilious fever there is a regular periodic advance, sometimes intermittent, sometimes remittent; in the first case with marked irregular exacerbations; in the second with febrile exacerbations, which generally occur toward evening or during the night.

### SPRAINS AND MASSAGE.

In a communication to the Societe Medicale du XIIe Arrondissement de Paris, Dr. Rosenblith shows that effusions of blood in sprains are very rapidly reabsorbed by massage. In practice the injured articulation is at first immersed in very warm water in order to dilate the superficial vessels, after which preparation of the affected region massage is performed outside of the injured part; it is then gradually approached, a very gentle stroke being applied to it at first, followed by more vigorous frictions, thus gradually producing insensibility. When partially obtained a more or less energetic kneading is pursued, according to the varying degree of sensibility experienced by the patient, and to the massaged part is finally applied a compressive bandage, with wadding, which is wrapped in a flannel or

linen band. If the sprain occurs in the inferior limbs Dr. Rosenblith—contrary to the ordinary commended practice of avoiding movements for a shorter or longer period—advises the patient to walk as soon as he can do so without feeling great pain. Walking, he says, adapts the auricular surface in a natural way, and actuates the venal and lymphatic circulations by the muscular contraction.

### NITRIC ACID BACTERIA.

The development of bacterial study during the last few years has been very striking. The methods of attack supplied by the gelatine culture, divided plate and microscope brought the subject within the scope of ordinary laboratory manipulation, and took it to a certain extent out of the region of the recondite, which is so unfavorable to rapid study and early acquirement of results. The most extensive processes of decomposition and fermentation are now found to depend upon these exceedingly minute beings. Insignificant as they are in size, they derive their importance from their numbers, from their enormously rapid propagation—twenty minutes sometimes answering for the lifetime of a complete generation—and from their power of bringing about with certainty some of the most difficult of chemical combinations.

The production of ammonia or of nitric acid from the nitrogen of the air has long been a dream with inventors. Hitherto neither combination has been practically effected, and they have seemed almost impossibilities. It was found inexplicable in view of this fact that some plants seemed to derive nitrogen from the air, for it was not easy to see how their green foliage could effect the fixation of nitrogen.

This problem of the fixation of atmospheric nitrogen by plants has been a much-debated subject for many years. Here the bacteria have appeared in the beneficent role of nourishing and supporting plant life. It has been found that plants undoubtedly do absorb the nitrogen of the air, so that it enters into the combinations of their tissues, and this power is dependent on the presence of certain bacteria about their roots. If the soil is void of these colonies of low organisms, then no fixation of atmospheric nitrogen occurs. The presence of these microbes is indicated by swellings and tuberosities on the roots, which tuberosities are thickly colonized with the microbes, but these swellings are to be taken rather as a sign of health than of disease.

Again, for different plants it has been found that different organisms are essential, or at least that for each plant there is an especially beneficial form of microbe that supplies it more thoroughly with nitrogen than any other. The importance of these operations cannot be overestimated. The nitrate beds of Chile, representing the accumulated wealth of geological ages, are being rapidly depleted to supply nitrogen to the crops of Europe. The distillation of coal in our gas works gives a small amount of ammonia as a by-product, which is saved and utilized also as a fertilizer. Slaughter house refuse and ground fish from which oil has been extracted are other sources of nitrogen which are used in fertilizers. To all this there must be an end, for it is all essentially destructive. But if we can cultivate microbes which will draw upon the exhaustless air for nitrogen, and will then feed plants therewith, the nitrogen problem of the future, one destined to be as serious as the coal problem will be, may eventually be disposed of.

While nitrogen in fertilizers is very often supplied in combination with hydrogen as some com-

pound of ammoniacal type, the plant cannot absorb it until it has become oxidized into nitric acid. This process is termed nitrification. It has recently been found that nitrification is dependent on bacterial agency, and that to produce nitric acid from ammonia compounds two distinct bacteria are required. One performs the first and most difficult step, and combines the nitrogen with enough oxygen to form nitrous acid. The next microbe takes up the incomplete work and adds enough oxygen to the molecule of nitrous acid to form nitric acid. In this form it is quickly absorbed by the plant. The absorption is so rapid that only traces of it can be found in soil in which vegetation is growing.

The nitrification process is one of destruction as well as of building up. The ammonia type molecules are destroyed and in their place the nitric acid ones are built up. The offensive products of sewage, the products which nourish disease germs, and which with every probability we may recognize as the supporters of typhoid fever and other infections, are of the ammonia type. In the nitrifying organisms we have the agents for destroying the injurious products of sewage. If proper conditions are supplied, the army of microscopic beings will attack and destroy the disease germs, or at least their nutriment, and will transform the noxious sewage into a valuable fertilizing agent.

Some of the advanced processes of sewage treatment are based on these facts. The sewage is delivered over the surface of the land and allowed to percolate through it. If supplied in proper quantity, the nitrifying organisms are supplied with nutriment and dispose effectually of the sewage. The great point is believed to consist in a proper rate of supply of material. Too little sewage will starve the microbes, while too much must not be supplied for them to dispose of.

Potassium nitrate, or saltpeter, is made in nitrification beds. Animal refuse of all kinds is mixed with mortar and lime, and the heap is watered with liquid manure, and eventually the saltpeter formed is washed out of it, and is recovered by crystallization. The agents that produce the salt are the bacteria, whose part in settling the destinies of nations by making saltpeter may now be recognized. The great storehouse of nitrates, the South American nitrate beds, were probably produced in a similar way in the past, and wars are being fought, and sulphuric acid is being made, through the agency of the products of the work of the bacteria of the past.

The quick succession of generations, which are sometimes less than half an hour in duration, seems to offer the biologist a field for studying changes in life due to environment. But little has been done here. To a limited extent a change can be produced in the constitution of some microbes, but the degree of development is very small—*Scientific American*.

### NEW THEORY OF SLEEP.

Some discussion has been going on concerning Herr Rosenbaum's recently proposed theory of sleep, namely, that the anaemic condition of the brain is due to an excess of water in the brain cells of that body. The supposition, as stated, is that sleep is essentially a matter of nervous action, and the direct cause is thought to be fatigue of the nerve cells which communicate with the heart and bring about some change in the circulation; the nerve cells are thus supposed to be full of water when sleep comes on, and this water during sleep passes into the venous blood as waste and the nerve cells then receive nourish-



ment from fresh arterial blood—then, when the process is entirely over, the sleeper awakes. According to this theory, sleep is not solely healthy because it rests the body and brain, but also because it invigorates them. It is also to be inferred from Rosenbaum's theory that the nerve cells and brain of infants who sleep so much must contain more water than is to be found in those of adults, and that the effectiveness of brain cells is in inverse ratio to the water contents. Of not inferior interest is the theory of Dr. James Cappe, of Edinburgh, and also held by some other eminent scientists, namely, that the veins of the pia mater, the inner membrane of the skull, are capable of congesting and dispersing comparatively large quantities of blood—that congestion produces vertigo and senselessness or stupor—and that the dispersion of blood from the brain cells produces a slight compression on the surface of the brain and thus brings about sleep.

#### CONTAGIOUSNESS OF LEPROSY.

In a paper giving the result of his careful and prolonged investigations of this subject, Dr. Duncan Buckley declares that it is not proven that any number of individuals have ever acquired the disease from direct contact with others affected, or that it has ever been traced, in any proportion of cases worth mentioning, directly from one person to another. There is strong reason to suspect, he says, that it may first be introduced into the system by the way of food, fish being the most likely of all substances to furnish and convey the poison; heredity probably accounts for a share of the cases, but the disease is not necessarily transmitted by inheritance; inoculation with leprosy matter may be the means of conveying the disease when all the conditions are favorable.

#### INSECTS IN PHARMACOPAEA.

Not only in industry and art, but in medicine also, insects are now utilized to a considerable extent, and, indeed, to a degree not generally understood by the non-professional. Even cockroaches, dried and powdered, are recognized nowadays as a remedy for dropsy, the dust containing an active principle termed antihydropin, which stimulates the kidneys and checks the complaint. Probably everybody is familiar with the fact that pulverized Spanish flies are commonly utilized for blisters, inflaming the skin through operation of a substance called cantharidine, and it has lately been ascertained that ordinary potato bugs, dried and powdered, possess an equal virtue of the same description; many other insects are also used for supplying cantharidine, there being as many as fifteen species of blister-beetles obtained in this country. Cochineal insects, so valuable as a dye, are administered in small doses for neuralgia and to check the spasms of whooping cough. Lac insects, from which shellac is made, are resorted to as a remedy for dysentery; and the medicinal properties of extracts derived from the galls formed on plants by gall flies are well understood; these galls, which contain 70 per cent of tannin, being largely gathered in Asia Minor, mostly from oak trees.

M. Marey, the French scientist, whose investigation of animal movements by means of instantaneous photography and the zoetrope are well known, has now succeeded in rendering the beating of a living heart visible to the eye. It is said to be possible by this new method to follow and properly examine all the phases of the heart's movement.

## MISCELLANEOUS.

### ODD THINGS IN CHINA.

BY WONG CHIN FOO.

The highest ambition of a Chinese gentleman is to have a nice coffin and a fine funeral.

They feed their friends sumptuously when dead, but let them take care of themselves the best they can while alive.

Old women instead of young are the idols of society.

The highest recommendation a man can have is in the fact of his having a wife.

A bachelor is likened to a counterfeited coin; he is looked upon with suspicion even by members of his own household.

Love-making is only done three days after marriage. It is not only considered the safest way to get ahead of a rival, but the surest way to get a wife without losing much time.

A previous acquaintanceship between the male and female prevents them from marriage. For this reason a man seldom weds a girl of his own town. They are likewise prevented from marrying kins and namesakes. Joneses are not allowed to marry Joneses nor Smiths to marry Smiths.

A girl is never considered anything else in her own father's house than an honored guest. She is neither responsible for the family's debts nor enjoys a share in its fortunes, as in the case of sons.

Daughters depend on their husbands for fame and fortune, while sons depend upon the parents and upon themselves.

A man could borrow money on the strength of his having a son, but no one would advance him a cent if he had a dozen of daughters. The former is responsible for the debts of his father for three generations. The latter is only responsible for the debts of her own husband.

When a Chinaman meets another he shakes and squeezes his own hands; covers his head. If great friends had not seen each other for a long time, after the mutual hand-shaking they would rub shoulders until they became tired. Instead of asking each other's health, they would say: "Have you eaten your rice? Where are you going? What is your business when you get there? How old are you and how much did you pay for your shoes?"

Men wear long petticoats and carry fans, while the women wear short jackets and carry canes.

Boats are drawn by horses; carriages moved by sails.

Old men play ball and fly kites, while children fold their arms and look on.

Schoolmasters have more power over the young than parents. If within three years' schooling the child is not morally as well as intellectually reformed he is sent to another school.

Parents and spectators, instead of the children, are held responsible for crimes committed by the latter.

"It is better to be ignorant and know how to live than to be learned and not know how to live. The principal object of a school is to learn how to live in tranquility and happiness, and nothing more." So say all Chinese scholars.

It is a much lesser crime to steal your neighbor's ox than to steal his dog. The former is simply personal property, while the latter takes the place of a man—watchman.

If a Chinaman desires the death of an enemy, he goes and hangs himself upon his neighbor's

door. It is a sure cure to kill not only that particular enemy, but members of his entire family will be in jeopardy of losing their lives.

When a Chinaman desires a visitor to dine with him, he does not ask him to do so, but when he does not wish him to stay he puts the question. "Oh, please stay and dine with me!" The visitor will then know he is not wanted.

A rich man's servant gets no salary, yet many are the applicants; while big salaries are paid to the servants of the common people, but few make application. The perquisites of the former, often more than triple the salaries of the latter, are the sole reasons of these differences.

When a Chinaman expects a present and it does not come he sends one of lesser value.

To encourage honesty and sincerity, confidential clerks and salesmen in all branches of industries receive an annual net percentage of the firm's business besides their regular salary.

### SWINDLING SCALES.

"There are to be found, almost everywhere, those who have not the fear of the injunction of the Mosaic law against false weights and measures before their eyes. There are too many balance and spring scales that are out of order because they have been tampered with and 'doctored' for the purpose of cheating customers out of their full weight of merchandise," said a well posted repairer of scales and measures.

"I am often summoned," he continued, "by shopkeepers who employ such scales, to brace up their weighing machinery, but it is usually when they anticipate a visit from the authorities whose business it is to see that dealers use proper weights and measures. I am satisfied that these people receive a tip that the official inspection is to be made and are advised to get their apparatus in condition for official test, because it is often the case that in twenty-four hours after I have put scales in perfect order I have noticed them to be incorrect again. This practice of fraud is most prevalent among small butchers and commonplace little grocers. Of course, the poor are generally the victims, but I have seen the trick played by retail butchers and grocers in very excellent neighborhoods, where the victims were of the better class of buyers.

"Yes, this system of fraud is very common, and the public should be protected against it.

"There are more scales out of balance in and around this city at present than at any other time for a dozen years, and in a great majority of cases the trouble is due to tampering with the apparatus. Scales of the best manufacture get out of order almost immediately after being placed in service. Scales which under the severest use would last ten years or more become mysteriously unbalanced in favor of the shopkeeper within a few days after official inspection and remain so until a few days before the next inspection. The scales of first class dealers and those in shops of respectable standing, with but few exceptions, never get out of order, and when they do the repairer is called in immediately to make them balance correctly. But there are a host of unprincipled dealers, such as little grocers and small butchers, who keep their scales a few points off all the time and so cheat their customers out of just so much merchandise."

Another scaleman thought the authorities were to blame for not compelling dishonest shopkeepers to maintain correct weighing machinery. "The public is not properly protected against these piratical shopkeepers," he said, "and this system of cheating is going on by wholesale, very



often under the nose and eyes of the customer. The cheating on balance scales is done by extracting with a penknife several ounces of lead from the holes in the weights, where it is placed by the public sealer of weights and measures to secure standard weight. As to the spring balances, let any person who patronizes the butcher and grocery shops observe the position of the arrow on the hanging scales, and in four stores out of ten—the proportion is likely to be greater—the arrow will be found to tip over to the right a couple of points, which means that the dealer starts off with a gain of so much on every first pound which he weighs. Sometimes a little S hook is left, presumably by accident, upon the hook from which the pan or plate is suspended. The weight of this little S hook is something in the favor of the shopkeeper. Others, when the difference or variance in the pointing of the arrow is so great that it would be observed, resort to the trick of keeping a piece of ham, wad of paper or some other trifling article on the pan to conceal the truth and make it appear that the tipping of the arrow is solely due to the weight in the pan. An honest dealer keeps nothing reposing in the pan of his scales, and when the scales are not in use the arrow always rests point blank on the O mark."

#### ELECTRICITY AS A FIRE-STARTER.

The risks of fire due to electric appliances are discussed by Mr. C. J. H. Woodbury, vice president of the Boston Manufacturers' Mutual Fire Insurance Company, in a paper read before the Fire Insurance Congress at Chicago, on June 22. He narrates, very briefly, the history of the application of electricity to the needs of mankind, from the time when it was not an easily controlled servant until it became a most capricious master. As the telegraph and telephone wires

increased in number the element of danger was developed and the height was reached when electric lighting wires, with their heavy currents, were suspended where a contact with the wires for other service was a constant peril. When there is such contact and the wire for the lighting service is exposed—by no means an uncommon incident—the heavy current is imposed upon apparatus of insufficient conductivity and the fluid becomes flame. There are many devices for protection, but they are in use only in those places where control is possible; they cannot be used on exposed spots, such as any exterior wood-work on buildings on which the conducting wire may fall in case of a heavy storm or through some accidental cause.

Mr. Woodbury makes a statement which may be cited whenever there is a movement to get rid of the overhead system of carrying electric wires about a city. He says that they serve as a defence against lightning by presenting such an inductive action upon the electrical condition in the clouds as to reduce the difference between the earth and the clouds, and therefore to diminish the violence of the electrical discharges constituting lightning; and he adds that it is this defence by the wires which has reduced the losses by lightning strokes in cities during recent years. Before accepting these statements in full it might be well to offer statistics showing the losses from lightning strokes in London, Paris, New York and Chicago, before and after the substitution of the underground for the aerial system. He admits, however, that overhead wires are a serious hindrance to the operations of the fire department, and will continue to be so until a fully practicable system of underground wires performs the same service, for one system will not be substituted for the other save under this condition. He argues that underground wires are not of necessity safer than those overhead, for the

reason that contact with the earth increases the danger wherever the insulation becomes insufficient from any cause, and there is no leak so persistent and elusive as an electrical leakage. These are noted as the principal dangers from underground wires: First, diverting the electricity by earth connections through conductors of combustible material and high resistance, such as buildings, thus causing fires; second, the currents of electricity dissociating water by electrolysis into its two gases, and then igniting this explosive mixture by an arc; third, the earth-return currents used in trolley street railway service have impaired water mains by electrolytic action, and, indeed, have destroyed the insulation on other underground wires, whose insulating covering was surrounded with metallic tubing.

To all this it may be answered that facts are more convincing than theories, and the facts show that very many catastrophes have been traced to aerial wires, or, at least, the evidence that they were responsible has been largely against them, and if their responsibility has not been proven it has not been completely avoided. On the other hand, reports of disasters due to the underground wires have been very rare; indeed, at this writing, none are recalled. Still another reply to any attempt to ward off the charges against the overhead system is to call up the experience of London and Paris. In either city, and very emphatically in the French capital, they have learned the value of preventive means and have demonstrated them by a remarkable immunity from great fires compared with our humiliating record.—*Boston Transcript*.

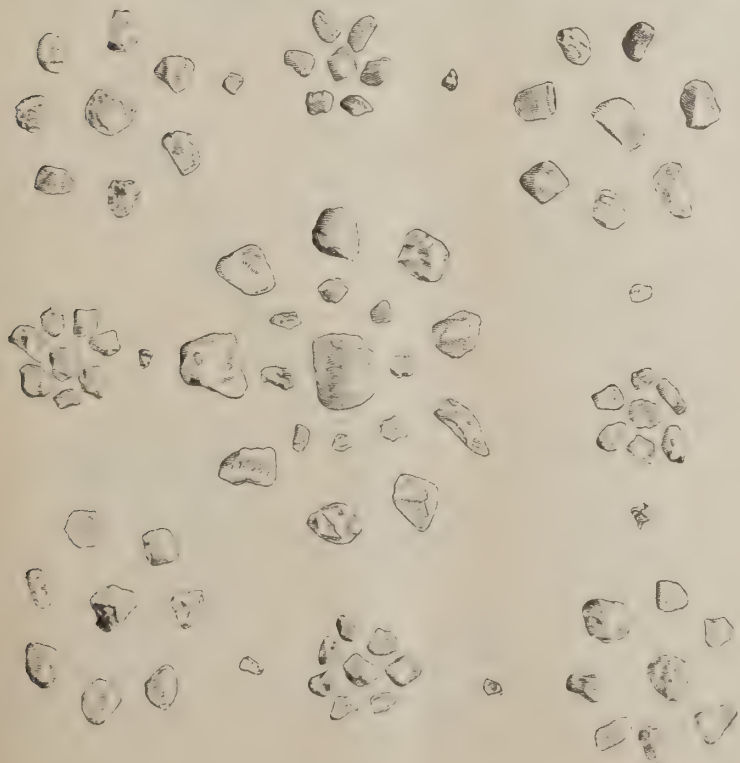
Mrs. Hotty—Maria, what time does your husband come home at night?

Maria (née Hotty)—I don't know, mamma. Our clock only registers up to twelve.—*Detroit Free Press*.

# BUFFALO LITHIA WATER

## A POWERFUL SOLVENT OF STONE IN THE BLADDER.

The following plate is from a photograph and represents the exact size and shape of Calculi passed by the Hon. T. J. Jarrett, ex-Mayor of Petersburg, Va., under the action of Buffalo Lithia Water.



The original stone shown in the cut together with one from a similar case, will be on exhibition at Ditman's Pharmacy, Astor House, Corner Broadway and Barclay Street, New York, from where water may be obtained.

Statement of Dr. John Herbert Claiborne, M. A., M. D., of Petersburg, Va., ex-President and Honorary Fellow Medical Society of Virginia.

E. C. LAIRD, Buffalo Lithia Sprngs, Va.

PETERSBURG, VA., Sept. 5, 1892.

My Dear Doctor:—I send by this mail a box of CALCULI, passed at various times within the last year by Hon. T. J. Jarrett, our former mayor, whilst drinking the BUFFALO LITHIA WATER. They give him but little pain now when passing. I have never critically examined the broken CALCULI, passed in such quantities from Mr. Jarrett's bladder, but am under the impression that the most of them were MANESIAN PHOSPHATES. There were specimens, however, which presented the appearance of OXYLATES, and, I remember, impressed me specially as being URIC ACID. I do not pretend to account for the mode of their solution by the Buffalo Lithia Water. There is nothing in its analysis which would warrant such results, but THE RESULTS ARE THERE, and seeing is believing. I can only suppose that in Nature's alembic there has been some subtle solvent evolved, too subtle to be caught by our coarse agents, which makes this wonderful disintegration. "There are many things in heaven and earth not dreamt of in our philosophy," and his is a short creed who believes only what he can prove or explain. Faithfully yours, JOHN HERBERT CLAIBORNE.

It is well known that stone in the bladder, for the most part Gout, Rheumatic Gout, Rheumatism, and also various forms of Dyspepsia and Nervous prostration have a common origin, viz.: excess of uric acid in the blood. It is evident, then, from the foregoing statement, that this water must possess extraordinary potency alike in all of these maladies. In Bright's Disease of the kidneys it is well-nigh specific.

Water in cases of one dozen half-gallon bottles, \$5.00, f. o. b. here, and for sale by all first-class druggists.

Illustrated 32-page pamphlet, giving further information, sent prepaid on application to

THOMAS F. GOODE, Proprietor,  
BUFFALO LITHIA SPRINGS, VA.



## SOME GOOD IN THE CRISIS.

It is a philosophic axiom that every evil contains some good. Even the extraordinary financial panic prevalent this summer may have had some modicum of good in it, by its very effective diversion of popular attention from the lively possibilities of a cholera epidemic. People have been too busy and anxious about their monetary concerns to accord more than casual recognition to the fact that the dreaded plague had reached our gates and was only barred by the Quarantine from entering our homes. If we had leisure to think about this as we would be apt to in ordinary times, it is pretty certain we would have had a cholera scare, producing, first, simulated cases among nervous folks and afterward, very probably, the real disease itself in epidemic form. But, who troubles himself about his intestines when his pocket is in agony? Now, however, that the monetary pinch seems to be in a fair way for relaxing its sharpness, and we begin to "sit up and notice things," there is real danger that our appreciation of the cholera peril may suddenly become greater than it deserves. This must be carefully guarded against. The Quarantine authorities will doubtless be able to prevent infected persons reaching the city. Emigrants who die of the disease on the hospital islands will be cremated there and those allowed to land will first be thoroughly cleaned, inside and out, repellant as that condition may be to many of them. The remaining sources of infection are cargoes of imported goods and the personal baggage of emi-

# Indigestion

## Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

Dr. W. W. Gardner, Springfield, Mass., says: "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

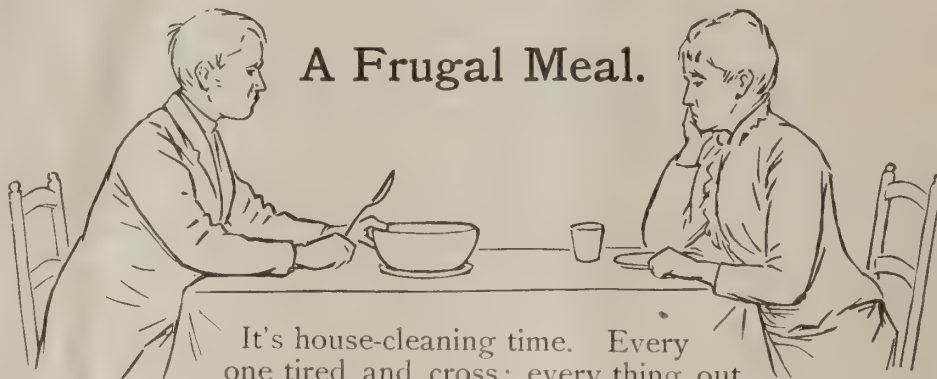
Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For Sale by all Druggists.

## A Frugal Meal.



It's house-cleaning time. Every one tired and cross; every thing out of place and wrong end foremost. No time to fool away in cooking; no fire, probably; no appetite, perhaps; no comfort, certainly.

**No Pearline**—that's the cause of it. A little **Pearline**, when you're cleaning house, makes the whole thing smooth and easy. With anything about the house that isn't hurt by water, you can save time and hard work by using **Pearline**. You won't have to use that rub, rub, rub, in getting the dirt off. And that saves other things, besides your labor. Your paint, for instance.

## Beware

send it back.

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, if your grocer sends you an imitation, be honest—  
JAMES PYLE, New York.

grants from infected ships. The latter is most dangerous. Among the Italian emigrants dirt is sacred and the comma bacillus shares their fondness for filth. Consequently, it may very well happen that a germ may, now and then, escape the fate intended for it by the official fumigators and, reaching shore alive, find lodgment and a congenial field for its activity in the body of its importer. But, sporadic cases of cholera so occurring in New York would almost inevitably be stamped out by the municipal health officers, before they could start an epidemic. And, at the worst at all probable, the disease would only be likely to affect those whose deteriorated physical condition rendered them peculiarly susceptible to infection. Really healthy persons have very little to fear from germ diseases. Where the vital organs are properly carrying on the process of digestion, assimilation, nutrition, secretion and excretion, the life force engendered is too strong for successful bacterial assault. It would therefore be, at the present time, a wise precaution for everyone to establish as a fact beyond all question the absolute healthfulness of his animal economy. Upon the regular and thorough action of the stomach, liver, kidneys and bowels, primarily, the condition of the entire system depends. If these are out of order, the circulatory system carries impure blood everywhere, by which the special disorders are enhanced and others engendered. When the blood is pure those all-important organs cannot fail of the proper discharge of their functions. Cure and prevention of disease alike must start from that basis to be effective. For this reason, Ayer's Compound Extract of Sarsaparilla, a standard preparation combining the most potent alteratives known to pharmaceutical science, is a medicine which, at this time especially, should be taken by every one who values life and such enjoyment of it as is only possible in health.

## HOW'S THIS?

We offer One Hundred Dollars reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure. F. J. CHENEY & CO., Toledo, O.  
We, the undersigned, have known F. J. Cheney for the last fifteen years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligation by their firm.  
WEST & TRUAX, Wholesale Druggists, Toledo, O.  
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.  
Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Testimonials free. Price, 75 cents per bottle. Sold by all druggists.

Minister—I observe with pleasure that your family Bible is not covered with dust.

Little Girl—It's always nice and clean now, ever since the piano-stool broke.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Panathy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

## GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Seve of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.



## HISTORY IN ADVERTISEMENTS.

AN INTERESTING AND VALUABLE PART OF A NEWSPAPER'S CONTENTS.

It is no longer an objection to a newspaper that it contains advertisements. On the contrary, there is no reason to believe that a paper which should contain no advertisements would be not only behind the times, but fail to give its readers a feature containing much current and useful information, and, withal, much entertaining reading. Thousands of people regard the advertisements in a daily paper as part of its local news. In late years the writing of advertisements has become a special feature in journalism—a branch of literature requiring information and calling for brightness and versatility. The man or woman who has a genius in that direction has a more profitable place in current literature than have many of those who see their articles in magazines or their names on the title pages of current fiction. The wide-awake business man, who sees the great advantage of space in a newspaper's columns, comes to understand the importance of having it filled with matter which will be sure to so attract the reader that he, and particularly she, will look for it every day and will experience a feeling of disappointment if it is not found.

If one should assert that a history of any recent period could be written from the data supplied by the advertisements of the newspapers, the statement would scarcely be believed until one could give it consideration, after which he would conclude that it might be done. From the advertisements of newspapers an expert might write the history of the railroad development in this country. The scanty cuts of locomotives and cars would furnish an outline, while the improvements and advantages set forth in the advertisements would furnish a writer, if he possessed a fair amount of originality, with the filling for the work. The financial history of the Government could be fully written from the advertisements of treasury officers and bankers dealing in public securities. Doubtless advertisements in New York commercial papers would show that, late in 1860, a United States loan could not be placed at par bearing 6 per cent interest. Similar advertisements would show not only the rates of interest such securities bore during different periods, but the fact of the issue of legal tender greenbacks and the premium which gold commanded from time to time. The results of great battles during the war and the popular feeling, whether hopeful or despondent, could be told in the ups and downs of the prices of bonds in gold or in currency. Without other record, the collapse of the rebellion could be told from the fall in the premium on gold and the sale of seven-thirty bonds.

The advertisements of the treasury and banks directly after specie resumption, announcing the sale of millions of 4 per cent bonds and of the premium which these bonds commanded after a brief season, tell us eloquently and accurately the story of the achievements by which the rate of interest paid by the United States and the people was reduced nearly one-third, as did the official report of Secretary Sherman. The development of American industries can be traced in the advertisements announcing novel home products. Transient as are the fashions of dress, the clever writer could tell their rise and fall from the outlines supplied by the dealers in fabrics and millinery. The enterprising dealer with an eye to business has never failed to give the public "the correct thing in dress" for both sexes.

In years to come the writing of advertisements

which will always attract attention will become more and more a literary employment, since the writer must not only be well read, but must possess, in a high degree, all the literary art of putting things. At the rate this branch of newspaper-making is being developed the time is not far distant when it will be announced that this or that noted advertisement writer will contribute a special advertisement to a forthcoming issue, for the same reason that publishers of magazines now announce that the next number will contain a story by Howells or a poem by James Whitcomb Riley.—*Indianapolis Journal*.

## GLUTEN IN FLOUR.

Having some time ago had occasion to seek a rapid approximate method of estimating the quantity of gluten in flour, I found the following, says Lester Reed in the *Chemical News*, to give fairly correct results with known mixtures of white flour and starch (arrowroot being the form of starch employed in the experiments): "The principle upon which the estimation is based is the production of a yellow nitro-body when nitric acid acts upon albuminoids. First 0.5 of a gramme of flour is weighed out and carefully transferred to a test tube, which is divided (beginning at the bottom and ending the gradation about half way up) into four parts of equal capacity; water is now to be added up to the fourth mark exactly, and the test tube violently shaken, being closed by the cushion of the thumb. Frothing is best avoided if the shaking be terminated by successive inversions of the tube; the contents are temporarily transferred to another test-tube while the marked one is cleaned (all the pourings out are to be done immediately after shaking). A quarter of the liquid is now poured back, viz., up to mark 1, and the tubes filled up to mark 3 with nitric acid of such strength that half a test-tube full of it appears white when a white surface is observed vertically through it, but the acid should, barring this condition, be as strong as possible.

"The test-tube is now to stand exactly five minutes, with occasional shaking up, and is then to be filtered immediately after shaking through a dry filter into a dry receptacle; a standard flour is to be treated in the same way, and the two clear solutions examined colorimetrically; the qualities of the flour are then inversely as the heights of equal flour."

## SPONTANEOUS COMBUSTION.

Dr. Kedzie, professor of chemistry in the Michigan State Agricultural College at Lansing, in a recent address before the Michigan Association of Fire Underwriters, said: "Vegetable oils, and especially spirits of turpentine, tend to take oxygen rapidly from the air and thus generate heat. The large extent of surface exposed to the air promotes this oxidation, and the rags, being poor conductors of heat, retain the heat produced by oxidation, and hence arises the danger of spontaneous combustion. The danger is increased if the rags are moist. Similar instances of spontaneous combustion are seen in hay mows, when the hay has been put up damp. The danger is greater where the rags are soiled by vegetable oils, for example, linseed and cottonseed oil, and especially spirits of turpentine used in making varnish.

"One day, while returning from Lansing, I saw Mr. Lapman rush out of his planing mill with a box of smoking sawdust in his hands, which burst into flames when thrown upon the road. A painter had rubbed the paint from his hands with the sawdust in the box, and departed unconscious of danger. Within fifteen minutes the

oil of this paint thus spread over a large surface of sawdust was smoking and just ready to break into flame.

"The danger from spontaneous combustion is increased where a quantity of greased rags are left in a pile so loosely placed as to allow a free access of air, yet so compact as to keep in the heat caused by oxidation. The mineral oils are much less liable to spontaneous combustion than vegetable oils."

HOW TO CLEAN PETROLEUM BARRELS.—A manufacturer in Darmstadt gives the following method of cleaning barrels that have been filled with petroleum. After the barrels have been emptied they are to be smoked out with burning bundles of straw. This is done by throwing bundles of straw into the barrel one after the other and lifting the cover each time to make sure that the straw is not burning too fast, as otherwise it would ignite the barrel. It is an easy matter to prevent the barrel from getting on fire as the burning of the straw is regulated by the opening and shutting of the cover. Great precaution is recommended. After this method has been repeated several times the barrel should be washed out with hot water, which does away with all odor of the petroleum.

Struggling Pastor—The collections have fallen off terribly.

Practical Wife—It's that new vestryman who passes the plate. He never watches to see what people put on.

**The Question**  
is a simple one—easily  
decided by reason and  
common sense.

**COTTOLINE**

—the new scientifically  
prepared shortening — is  
made from pure beef suet,  
and highly refined vegeta-  
ble oil. Lard is made, in  
the majority of cases, in  
the packing-house, and  
not as of old, from the pure  
leaf of the hog. Which is  
likely to be the most  
healthful? Decide for  
yourself. It must be

**COTTOLINE**

Send three cents in stamps to N.  
K. Fairbank & Co., Chicago, for  
handsome Cottolene Cook Book,  
containing six hundred recipes,  
prepared by nine eminent author-  
ities on cooking.  
Cottolene is sold by all grocers.  
Refuse all substitutes.

Made only by

**N. K. FAIRBANK & CO.,**

Chicago, St. Louis, Montreal, New  
York, Boston, Philadelphia,  
San Francisco, etc.



## POISON IN RUBBER RINGS.

Analyses have been made by W. Reuss of the rubber rings employed in the make-up of vessels used for containing some of the popular preserved foods. In this list, as published in the *Chemicalische Zeitung*, india-rubber rings made in Paris and extensively used, its average weight being 0.5 grm., showed 66.6 per cent ash, containing almost wholly of red lead, with no anti-mony sulphide present. Again, an experiment was made by exposing a rubber ring to water under pressure at a temperature of 110 to 112 deg. C., for thirty minutes, at the end of which time the ring was found to be softened, and 0.0286 grm. red lead was suspended in the water, which contained no lead in solution. In the case of another ring, similarly treated in the presence of 0.5 kilo. of asparagus, the solution gave an immediate precipitate of lead sulphate on the addition of sulphuric acid, the quantity of lead in solution corresponding to 60 per cent of the total amount in the ring. India-rubber rings taken from tins of Australian meat from a large English firm had the same composition as the Paris rings, and red rubber rings from Vienna contained 63 per cent of ash, the bulk of which was red lead.

## INJURIES FROM CARBOLIC ACID.

Warnings are given in a German medical journal against the injury to skin, and even bone, which may result from the long continued use of weak—say three, two and one-half, or even two per cent—carbolic applications, especially upon peripheral portions of the body, such as the fingers. This effect, it is asserted, is due in a small measure to the action of carbohc acid upon the vaso-motor system, but in the main to its destructive effect upon the red and white blood corpuscles. This induces, partly in a mechanical and partly in a chemical way, stasis, first in the capillaries, and, if the action of the drug be continued, then in the larger veins and arteries, with the result that the nutrition of the part is interfered with, and the removal of harmful substances hindered, the maceration of the epiderms caused by the acid favors evaporation, so that the gangrene is a dry one, a mummification as it were. The opinion is also expressed that even weak carbolic solutions, as external applications, are to be either completely discarded, or to be used only with the strictest precaution.

## EFFECT OF VINEGAR UPON DIGESTION

Modern laboratory investigations are bringing into question the propriety of using as food numerous articles which have almost universally been accepted as harmless or useful articles of food. Dr. Roberts showed long ago that tea and coffee hindered digestion. Condiments have been interdicted in consequence of the irritating effect upon the stomach and kidneys. The microscopists have discovered that the eels of vinegar sometimes take up their abode in the alimentary canal as parasites, and become a source of irritation and disturbance to the digestive organs. And now, according to Virchow's archives, John has been investigating the influence of acid upon salivary digestion, or the conversion of starch into sugar, and the fact has appeared that acetic acid, connected with tartaric and oxalic acids, very materially hinders this portion of the digestive process. It is worthy of note, as being in the line of scientific progress, that many of the most skillful chefs are substituting, in their culinary processes, lemon juice for vinegar, thus avoiding at once both the wriggling eels and the mischief-making acid.—J. H. K. in *Bacteriological World and Modern Medicine*.

## GENUINE OXFORD BIBLES.

.... AS PUBLISHED BY ....

Thomas Nelson &amp; Sons, Edinburgh, London and New York.

We have on hand the following choice variety of these celebrated Bibles, which will be mailed on receipt of price. Order by number.

Number.	Pearl, 24mo.	
18.	French Morocco, turkey grain, oak leaf design, gold lettered, rims and triangle class.	\$0.50
	Ruby, 16mo, size 5 7-8x4 inches.	
1203.	French Morocco, divinity circuit, round corners, gold edges,	1.10
	Nonpareil, square 16mo, size 6 1-2x4 1-2 inches.	
1184.	French Morocco, limp, round corners, red under gold edges,	.90
	Minion, 24mo, six maps, size 6x4 1-4 inches.	
1351.	French Morocco, limp, round corners, red burnished edges,	1.10
	Brevier, 16mo, six maps, size 6 5-8x5 inches.	
1453.	French Morocco, limp, round corners, red under gold edges,	1.90
	Pica, square 16mo, size 7 3-8x6 1-2x2 inches.	
1570.	Persian Morocco, limp, round corners, red under gold edges,	5.00

## The Celebrated Oxford Teachers' Bibles with the Latest Helps.

Number.	Nonpareil, 8vo, size 4 1-2x7 inches	
653.	French Seal, divinity circuit, round corners,	\$2.75
	Minion, 8vo, size 5x7 3-4 inches.	
702.	French Seal, limp, round corners, gilt edges,	3.00
	Burgois, 8vo, size 9 3-8x6 1-2 inches.	
811 1-2.	Turkey Morocco, limp, round corners, red under gold edges,	7.00
	Burgois, 8vo, Oxford India paper, 9 3-8x6 1-2x1 inch.	
822x.	Seal skin, divinity circuit, rolled calf lined to edge, silk sewed, round corners, red under gilt edges, the most expensive Teachers' Bible made,	20.00

## AN UNPARALLELED OFFER.

For One Subscriber to the AMERICAN ANALYST and \$1 we will send No. 18

" Two Subscribers	"	"	"	" \$2	"	" Nos. 1203, 1184, or 1351
" Ten	"	"	"	" \$10	"	" No. 1570
" Six	"	"	"	" \$6	"	" Nos. 653 or 702
" Fifteen	"	"	"	" \$15	"	" No. 811 1-2
" Fifty	"	"	"	" \$50	"	" No. 822x

Address, AMERICAN ANALYST, 19 Park Place, New York.

WHAT IS THE

"GUARDIAN ANGEL" by LILLIAN?

THE STRONGEST WORK OF FICTION OF THIS CENTURY.  
THE COMPLETE ANNIHILATION OF THE ARGUMENTS OF  
THE GREAT AGNOSTIC,

ROBT. G. INGERSOLL,

AND THE MOST CHARMING LOVE AND EXCITING DETECTIVE STORY  
EVER WRITTEN, HOLDING THE READER SPELL-BOUND TO THE END.

Read extensive reviews. ALL BOOKSELLERS.

Cloth edition, \$1.50. Ready October 1.  
Paper edition, 30 CENTS. NOW READY.

When ordering direct of publishers send postal note, money order, or 3 ten-cent pieces stuck to a card. Do not send stamps.

The Ideal Publishing Co.,  
(Mention this paper.) 29 Clinton Ave., Albany, N. Y.



It doesn't make out a case against Uncle Sam of wanting politeness, that in the war of the Revolution he didn't say to England, "Excuse the liberty I take."—*Philadelphia Times*.

## BUSINESS NOTES.

### WARNER & CO.'S EXHIBIT AT THE WORLD'S COLUMBIAN FAIR.

In the Manufactures and Liberal Arts building is a department devoted to pharmaceutical products, in the northwest corner of the gallery. This is a prominent position because the spectator can look upon the exhibits below in a comprehensive way that clearly illustrates the magnitude of this great building of 44 acres of floor space. The exhibit of Wm. R. Warner & Co. is located in this department, Section D, 101, at the junction of two avenues. It comprises 400 square feet and consists of a pyramid 18 feet high with steps forming shelves, trimmed with gilt moulding and surmounted by a statue of Mercury. There is a four-foot space on either side with seats for visitors, and a door leading to the interior. The stand is simple and conspicuous without any attempt at a cabinet maker's display or of beautifully cut bottles. This collection comprises sugar-coated and gelatin coated pills, flat, oval,

pink, white, blue, and yellow. Compressed tablets, fluid extracts, effervescing salts, including bromo soda, highly extolled in sea-sickness, insomnia and migraine.

The firm of Wm. R. Warner & Co. (founded in 1856), occupies a most prominent position in their particular line. F. Newbery & Sons, 1 and 3 King Edward street, are their agents in London. Wm. R. Warner & Co. have branch stores at 197 Randolph street, Chicago, and 18 Liberty street, New York.

### AUGITE,

#### THE WOMAN'S FRIEND STOVE MAT.

Food of any kind when cooked on this mat does not require stirring and will not scorch or burn. In baking it prevents bread, pies, etc., from burning on the bottom or top. It is indispensable to every housewife, and is suitable to any kind of fire—coal, gas, gasoline, oil, etc. A positive guarantee against burning of food of any kind.

It makes elegant toast. Coffee does not rush up and boil over if the pot is on the mat.

Saves granite and tinware. Manufactured by the J. L. Brown Company, Pittsburg.

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groove by those who have used it, we predict that it will soon become the universal tin roller.

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#### BOOK REVIEWS.

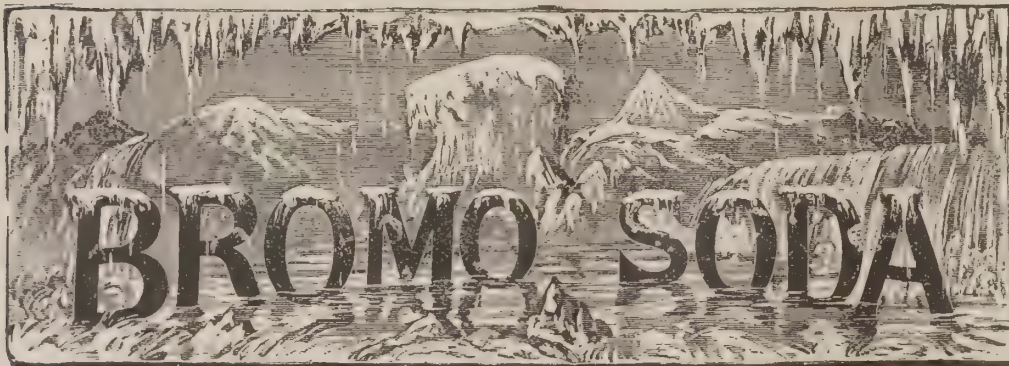
##### M'CLURE'S MAGAZINE FOR SEPTEMBER.

Henry M. Stanley contributes to *McClure's Magazine* for September one of the remarkable stories he collected in Africa. Pasteur in his home and in his laboratory constitutes one of the most important articles. Mrs. Annie Howells Frechette is writing a series of short stories. Edward Everett Hale, whose "Afternoon" with Dr. Oliver Wendell Holmes was described so fascinatingly in *McClure's Magazine* for July, is himself the subject of an interview written by Herbert D. Ward. The Bronte article tells of the most romantic and exciting courtship and elopement of Hugh Bronte, the grandfather of the novelists. R. L. Garner has broken his long

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Opiates stupefy—this cures—all nausea, vomiting and purging. Of Dealer, or address Box 1331, Salt Lake City. Samples free to physicians.

## PATENTS

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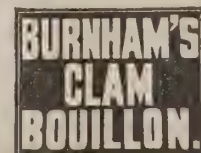
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# AMERICAN ANALYST.

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Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

OCTOBER 1, 1893.

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### DANGER IN FIGS.

Figs, as found in our markets, are all hand-picked, consequently if the cholera should become epidemic in Smyrna it would be quite dangerous to eat these figs. The United States Government has very wisely provided for such a contingency as may be seen from the following:

Some days ago United States Consul Emmet, at Smyrna, in a communication to Surgeon-General Wyman of the Marine Hospital Service, stated that in the event of an epidemic of cholera at that place there would be great danger of the disease being introduced into the United States through the method of handling and packing figs for shipment. He cabled Dr. Wyman as follows:

"Smyrna—Whole province quarantined. One hundred and twenty-eight cases. Epidemic during last seven days. Ninety-five deaths. Shall I receive fig invoices?"

Emmet, United States Consul."

Dr. Wyman immediately sent the following cablegram:

"Emmet, American Consul, Smyrna—For present all figs from Smyrna prohibited.

(Signed) Wyman."

The Doctor said he was authorized to prohibit the importation of figs from Smyrna under the Treasury Department regulation issued last February, which prescribed that any article of food, more especially fruits, invoiced for shipment in a cholera infected country, and which would not yield to the disinfecting process should be prohibited from importation into the United States.

### MOTHERHOOD IN AMERICA.

For weeks the columns of the newspapers have been crowded with reports of congresses of women held in Chicago, in which were set forth in glowing colors the rapid advancement of women in culture and refinement, in social, political and professional conditions. But in all these numerous discussions motherhood was omitted. Art, literature, science, music, the drama, dress, labor and politics were ably and volubly discussed, but nothing of motherhood, the divine mission of woman. At the first congress of women held in 1873, the leading and all-absorbing topic was motherhood, and the wrongs and crimes against it in and out of marriage. Mrs. Elizabeth Cooper gave the keynote of the discussion when she declared that motherhood is in the order of nature and was not in the direction of revolution, but evolution. In looking over the vital statistics of various States, the fact is glaringly apparent that American women are getting away from motherhood, and directing their efforts to the development of the intellect instead of maternity; that they are fast becoming "classically childless." The last census of Massachusetts shows that one-fifth of the married women of that State are childless. In 1890 the excess of children born of foreign parents over those of native parents was 5,388. The percentage of births to native parents was reduced from 56.70 in 1849 to 34.82 in 1890, while the percentage to foreign parents was increased from 40.04 in 1849 to 44.10 in 1890. In Connecticut for 1890, 64 per cent of the births were of foreign parents. In Rhode Island, in 1890, the percentage of births of native parentage was 36.74; of foreign parentage 44.47, and of mixed marriages to native mothers 46.50, and foreign mothers 53.50. The percentage of births to marriages was to native parents 0.3; to foreign parents 0.4. In New York the excess of births to foreign parents is equally noticeable. Iowa confirms these facts to a marked degree. A pertinent and important question is: What will be the end? With the off-scourings of the slums of Europe poured by millions upon our shores, breeding like rabbits, and with native procreation stopped, where will we stand in a not long distant period? This is a revolution—a revolution as insidious as it is sure and certain—that may well startle the thoughtful mind.

In no other civilized nation except France is to be found the prototype of the apparent ideal American woman. But France is reaping the reward of her social sins. In attempting a mobilization it finds the men wanting, and recently there was held in Paris a congress of eminent physicians and men and women to consider the repopulation of the nation. Statistics were presented showing that in 1789 France stood second in rank in population in Europe, whereas it is now the fourth. Also, that the number of male births in Germany was each year double those of France, so that by natural causes in 1900 the classes forming the first line of military defense in France would be less than half that of the corresponding class in Germany. After a week's discussion of ways and means to remedy these disastrous conditions, it was resolved to recommend to the government a special tax on men having no children, legitimate or otherwise; to diminish taxes upon families in proportion to the number of their children; and to provide a severe penalty against raising babies by the bottle. The eminent Dr. Bertillon, during the discussion, remarked that the Eastern States of America were as bad as France, but America at large gets her men already made.

Thus does France set her compulsory seal of recognition of motherhood as ordained by the Almighty.

### CANNED VEGETABLES.

Part eighth of the series of Bulletin No. 13, issued by the U. S. Department of Agriculture, has just been published. This part is confined to canned vegetables, and the publication was superintended by K. P. McElroy, second assistant chemist, with the collaboration of W. D. Bigelow. In the introduction by H. W. Wiley we are informed that it was the original intention to include in one publication the whole of the subject of canned and preserved foods, but its magnitude was found to be so great that the present publication confines itself only and especially to canned vegetables.

The work with canned vegetables has been directed especially to the methods of preserving, the preservatives employed, the character of the vessels in which the goods are preserved, and to their food value and digestibility.

#### METHODS OF PRESERVING.

A brief history is given of the process of preserving foods by sealing them at a high temperature from contact with the external air. It is shown that it was originally believed that the success of this process was due to the exclusion of the oxygen. The error of this, however, is set forth and the true theory developed, which rests upon the fact that the germs or micro-organisms capable of inducing decay of the food are killed by the high temperature. The exclusion of the external air prevents the access of the new germs and thus the foods are preserved simply because the organisms which produce putrefaction can not be introduced.

It is shown that a temperature high enough



and sufficiently prolonged to kill these germs in vegetables tends to disintegrate many of them and render them less attractive to the eye than when in the natural state. For this reason canners have sought other methods of preserving the foods in such a way as not only to preserve them from decay, but also to preserve their natural attractiveness. The preservatives which have been used for this purpose, and which have been found to the largest extent, are salicylic acid and sulphurous acid, the latter usually in the form of sulphites. Other preservatives are also sometimes used, such as boric acid, saccharin, etc. The action of all these added preservatives, together with a discussion of their physiological effects, as gathered from the experience of physicians and others, forms a prominent part of the bulletin.

#### PRESERVATIVES EMPLOYED.

Opinions are divided in regard to the wholesomeness or unwholesomeness of these added preservatives, the great weight of testimony being to the effect that while these bodies in small quantities are not injurious to health, yet the continual use of them, even in such small quantities, may finally become prejudicial. It is also shown that the same qualities which enable these preservatives to prevent the action of micro-organisms, and thus preserve the food from decay, are also active in the digestive organs and hinder the normal functions of the digestive ferments. In other words, the forces which tend to preserve in this way the vegetables from decay, also tend in like manner to retard the processes of digestion. The fair conclusion from the data which follow in this bulletin is, without doubt, that the use of added preservatives in canned vegetables is objectionable. This conviction, however, is not strong enough to warrant the absolute inhibition of these bodies, but the consumer would be sufficiently protected if the law should require that on each can of preserved vegetables a statement should be found as to the character of the preservative used and the amount of it which has been added. The consumer and his medical adviser are thus properly forewarned of the danger which they may encounter in the way of such foods, and if in the face of this announcement they see fit to continue their use, it is a matter which rests solely with them and they cannot hold the guardians of the public health responsible for any ill effects which may follow. Concisely, the views which we have reached as a result of these investigations are these: First that the use of added preservatives is, upon the whole, objectionable; second, that their absolute inhibition is not warranted by the facts which have come to our knowledge, but in all cases their presence should be marked upon the label of the can.

#### THE USE OF COPPER AND ZINC.

There are other added chemicals which are found in many varieties of canned vegetables, which are used not especially for the purpose of preserving them, but for adding to the attractiveness of their appearance. I refer chiefly to the use of copper and zinc salts to secure and preserve the green color of canned peas, beans, etc. The use of copper for this purpose is a very old one. Long ago it was observed that the cooking of peas, beans and other green vegetables in imperfectly cleaned copper vessels would secure a deeper and more attractive green appearance for the cooked product. It did not take the observing cook long to discover that this improvement in appearance was due to the copper or zinc contained in the copper or brass vessels. The same effect was found to be pro-

duced when these vegetables were cooked in ordinary vessels with the use of small quantities of copper or zinc salts. Upon the whole, copper salts were found more convenient for this purpose, and hence at the present day an immense industry has grown up in the greening of canned vegetables by the use of copper and zinc, especially of the former. By consulting the analytical data which follow, it will be found that a large part of such canned goods exposed for sale in this country has been greened by the addition of copper, and in some cases of zinc. For instance, the amount of copper found in peas of French origin was uniformly much greater than that found in American canned peas. Of forty-three samples of American canned peas examined, 22.56 per cent were found to contain no copper, while 66.44 per cent were colored with copper. Of thirty-six samples of French peas all were colored with copper, except one, which was colored with zinc. In regard to the quantity of copper found the following comparison will be of interest:

Amount of copper per kilogram.	American peas.	French peas.
	Per cent.	Per cent.
Less than 10 mg copper per kilo....	30.23	0.09
Between 10 and 18 mg copper per kilo.....	11.63	5.74
Over 18 mg copper per kilo.....	25.58	94.29
Over 25 mg copper per kilo.....	16.28	88.57
Over 50 mg copper per kilo.....	6.98	60.00
Over 75 mg copper per kilo.....	0.00	31.43
Over 100 mg copper per kilo.....	0.00	11.43

The literature on this subject, it will be found, has been carefully collated in the pages which follow, and, as in the case of added preservatives it is difficult to come to a definite conclusion in the matter. Almost the same statements may be made in regard to the use of greening materials as have been made in respect of added preservatives.

The occasional use of a small quantity of a copper or zinc salt, it must be allowed, can be practiced without practical injury to health. On the other hand, the continual and regular consumption of even the small quantities of these materials must be regarded as at least prejudicial to health. Therefore it is concluded that the public health will be sufficiently conserved provided each can of vegetables which has been greened artificially in this way shall bear plainly marked upon the label the nature of the greening material and the amount thereof employed. The responsibility of the use of these vegetables will then be thrown upon the consumer and he can exercise his own judgment in regard to the matter.

The question of the use of copper in canned goods has been agitated in France for nearly a quarter of a century. At first the committees appointed by the government to investigate the matter reported uniformly against the use of copper for greening. While French packers were not allowed for some time to sell their copper-treated goods to French consumers, they were not prevented from using copper when the goods were intended for export. For instance, in 1875 some Bordeaux packers labeled their goods "Green peas (or beans) greened with sulphate of copper. Made especially for exportation to America and England, and not sold for French use." Copper was present in some of these samples to the extent of 40 mg per kilo. After

this practice had gone on for some time the board of hygiene of the Gironde concluded to prohibit it, stating that no distinction should be made between goods destined for exportation and those intended for home consumption. Nevertheless, there was such a demand for goods of this kind that the exigencies of commerce gradually got the better of the hygienist, with the result that the French government has finally permitted the use of copper in greening canned vegetables, requiring, however, that some definite mark shall be used in connection therewith. The canners, however, were shrewd enough to elude the necessity of marking their goods as having been greened with copper or zinc and fulfill the letter of the law, if not the spirit, by marking them with some indefinite mark such as *a l'anglaise*. The result is that the purchaser of these goods has no intimation, as far as the label is concerned, of the nature of the material which is employed in greening, and the canners themselves claim that if they were compelled to mark their goods as having been greened with copper or zinc it would entirely destroy their sale. The question here is one of sight and not of taste or digestive value, and it seems that it would be wise to recommend to the consumer of canned goods to be content to use them, even if they are slightly pale or yellow, rather than to have them of a bright green color at the possible expense of health and comfort. The vast extent of the practice of greening foods, together with the amounts of greening material which have been found in the different cans, will be seen by consulting the analytical details which follow.

#### VESSELS USED.

Another prominent feature of the work which we have conducted is found in the examination of the vessels containing the vegetables. In Germany the law requires that the tins employed for holding the canned goods shall not contain more than 1 per cent of lead. In this country there is no restriction whatever in regard to the character of the tin employed, and as a result of this the tin of some of the cans has been found to contain as high as 12 per cent of lead. There is no question whatever among physiologists in regard to the effect of lead salts upon the human system. The continual ingestion of even minute quantities of lead into the system is followed eventually by the most serious results. Painters' colic, lead palsy, and other serious diseases well known to physicians, are the direct effects of the continual exposure of the system to the influence of minute portions of lead salts. Therefore the greatest care should be exercised in the preparation of canned goods to exclude every possibility of the ingestion of lead. Even tin salts are poisonous, but not to the extent of lead, so that the presence of a minute portion of tin in canned vegetables, coming from the erosion of the cans containing them, is not a matter of such serious import as the presence of lead. Perhaps it would be quite impossible to exclude tin absolutely from canned goods when they are canned in tin, but it is possible to exclude the salts of lead. This can be done by requiring that the tin shall not contain more than, say, 1½ per cent of lead, and, in the second place, that the solder which is employed shall be as free from lead as possible. In Germany the solder employed in sealing the cans is not allowed to contain over 10 per cent of lead, while in this country the analyses of numerous samples of the solder employed show that it contains fully 50 per cent of lead. In addition to this there is no care taken to prevent the solder from coming in contact with the contents of the can. It is a rare thing to carefully examine the con-



tents of a can without finding pellets of solder somewhere therein. Often on examining the inside of a can it is found that large surfaces of solder on the seams are exposed to the action of the acid contents. The result of all this is, as will be found by consulting the analytical data which follow, that lead is a very common constituent of canned goods.

Another great source of danger from lead has been disclosed by the analytical work, viz., in the use of glass vessels closed with lead tops or with rubber pads in which sulphate of lead is found to exist. As a sample of this may be mentioned the goods of Eugene Du Raix, of Bordeaux. All the samples of his goods examined were put up in lead topped glass bottles. All except one contained salicylic acid and all of them save one contained copper. In one of these samples lead existed to the enormous amount of 35.2 mg per kilo; in another 15.6 mg per kilo were found, while in one sample, viz., No. 10937, the extraordinary quantity of 46 mg per kilo was discovered.

It is not difficult to see how goods covered with lead tops can be contaminated. It may be claimed that these goods should never be turned upside down, but the shippers pay little attention to such directions and the result is that the goods may be kept for days or even weeks in such a position as to bring the contents of the can in contact with the lead tops or with the rubber pads containing lead. The constant consumer of such goods, therefore, must run some risk of being exposed to the insidious inroads of some of the diseases peculiar to the action of small quantities of lead upon the human organism. It is not too much to ask that the law should require the canners to exercise the utmost care to exclude all dangers of this kind.

The general result of the examination of the canned goods exposed for sale in this country leads to the rather unpleasant conclusion that the consumers thereof are exposed to greater or less dangers from poisoning from copper, zinc, tin, and lead. These dangers could be easily removed if the manufacturers of these goods were required to follow the dicta of a reasonable regard to public hygiene.

#### FOOD VALUE AND DIGESTIBILITY OF CANNED GOODS.

In regard to the food value of canned goods, interesting data have also been obtained. It will be seen that many expensive articles of canned goods contain an amount of nutrient matter totally out of proportion to the price paid therefor. The conclusion is therefore forced upon us that the use of canned goods is in every sense a luxury, and a luxury which is attended with many dangers. On the whole, the less rich portion of our population should rather congratulate themselves that their incomes do not warrant them in purchasing at a high price foods of so little digestive value and fraught with so many dangers to health. As an illustration of the excessive cost of some goods put up in cans, attention may be called to the analytical data in the tables which follow. These tables will be useful to consumers who have not time to search through all the details of the bulletin.

The quantity of dry food material in canned goods varies within wide limits. It is very low in such vegetables as string beans, asparagus, etc., and quite high in such materials as canned corn, succotash, and other bodies of that description. The lowest percentage of dry matter in string beans of American origin was 4.17. In other words, in buying 100 pounds of such material the consumer purchases 95.83 pounds of water.

The price of the packages of string beans varied within wide limits, depending both upon the size of the packages and the labels they bore. The highest price paid was 35 cents, and the weight of the contents of the package was a little over 3 pounds. The lowest price paid was 10 cents, and this was paid in many instances. The highest price paid, according to the percentage of dry matter, was in sample 10928, costing 30 cents and containing only 254 grams of string beans, 31.1 grams of dry matter, and 94.37 per cent of water. The price of the dry matter in this package was nearly 1 cent per gram, which would be almost \$5 per pound. The enormous cost of food in canned goods is illustrated to the fullest extent by this sample, showing in a striking way that such food materials must be regarded in the light of luxuries or condiments rather than as nutrients to support a healthy organism.

In regard to the composition of the dry material of string beans of American origin, full data are found in the analytical tables in the body of the report. To illustrate its nutrient value it may be well to give the analysis of the sample just mentioned, viz., 10928. The dry matter of this sample contained 0.46 per cent of matter soluble in ether, presumably of an oily or fatty nature; 8.67 per cent of indigestible fiber; 25.5 of mineral matter, of which 18.37 per cent was common salt and 6.68 per cent of other mineral substances. Of nitrogenous matter in the form of albuminoids it contained 16.16 per cent, of which 11.23 per cent was digestible. Of carbohydrates, including sugar, starch, etc., it contained 49.63 per cent. Of the total solid matter present only 69.19 per cent were digestible. We have here a substance which cost nearly \$5 per pound, and of which, in round numbers, only 70 per cent were digestible. Thus the digestible matter cost about one-third more, or about \$6.50 per pound.

In regard to the use of common salt in these canned vegetables, it may be said that as a rule it is added as a condiment and not as a preservative. The proportion of it in relation to the whole contents of the can is not very high, but the percentage in the dry matter of the can is very considerable. In one instance, viz., 10923, of American string beans, it was found that 40.58 per cent of the dry matter consisted of salt. In this case the salt evidently had been added either as a preservative or with the fraudulent intent of increasing the weight, more likely as a preservative. The extent to which common salt may be added is a matter which has, I believe, not been regulated by law in any country. There should, however, be a limit even to the addition of this comparatively harmless substance.

The percentage of water in the French haricots verts was even higher than in American string beans. In one instance, No. 10939, the percentage of water found was 96.13.

The percentage of salt in the dry matter of the French product is quite uniform, the maximum being 19.13 per cent and the minimum 8.34 per cent. The percentage of albuminoids is somewhat higher than in American goods, but the digestible albuminoids are in no greater abundance.

#### GENERAL REMARKS.

A general view of the digestive experiments must lead to the conviction that the process of canning, especially when preservatives are employed, such as salicylic acid and sulphites, tends to diminish the digestibility of the albuminoid and other bodies. The low percentage of digestible albuminoids will be remarked with some degree of astonishment in all the analytical tables.

A careful perusal of the data in the body of the report will not fail to convince every unbiased person that the use of canned vegetables is upon the whole an expensive luxury. It is not the purpose of this investigation to discourage the use of such bodies, but only to secure to the consumer as pure an article as possible. Nevertheless these practical conclusions may prove of some help to the laboring man and the head of a family, when he finds himself in straitened circumstances, by assisting him in investing his money in a wiser and more economic way than in the purchase of canned vegetables. An expenditure of 10 or 15 cents for a good article of flour or meal will procure as much nutriment for a family as the investment of \$3 or \$4 in canned goods would.

The investigations which are recorded in the accompanying report were made upon the following canned vegetables: Artichokes, asparagus, beans, Brussels sprouts, corn, okra, peas, pumpkin, squash, sweet potatoes, tomatoes, macedoine, mixed corn and tomatoes, mixed okra and tomatoes, and succotash.

The samples were purchased in the open markets in Washington, D. C.; Schuyler, Neb.; Kissimee and Orlando, Fla. Dealers were not acquainted with the purpose of the purchase, and it is believed that the goods represent fairly the character of the canned vegetables found in the markets of the United States.

The analytical work was conducted by Messrs. K. P. McElroy and W. D. Bigelow, assisted by Messrs. T. C. Trescot, Gus. Wedderburn, and E. G. Runyan. Mrs. K. P. McElroy voluntarily contributed largely to the successful issue of the investigations. The work has been one of great magnitude and has consumed more time than was originally intended for this purpose. The character of the work, however, and the value of the data which have been secured fully compensate for the expenditure of the additional time required to complete this branch of the investigation.

[To be continued.]

#### KEROSENE OIL.

##### WHAT TO BUY—LAMPS, AND HOW TO USE THEM.

The State Board of Health of Iowa has rendered a real service to the entire public, by a recent monograph upon this important subject which we here reproduce:

Kerosene may be said to be the middle product of petroleum; the upper being several volatile hydro-carbons, known under the general term of naphtha, a highly inflammable substance; and the lower, of paraffine, heavier and less combustible than kerosene. Naphtha is a very dangerous explosive. An excess of naphtha in kerosene renders the kerosene dangerous. An excess of paraffine makes the kerosene heavy and less combustible.

The statutes of Iowa demand that so much of the naphtha shall be removed that oil when heated to a temperature of 105 deg. Fahrenheit, will not throw off a vapor which will ignite when in contact with a flame or lighted match. This is what is termed the flashing point. Extensive observation and experiment have demonstrated that this standard will give satisfactory results for illuminating purposes, and be safe for use in ordinary lamps. It would not, however, be safe for kindling fires in the kitchen stove. No oil having a flashing point below 106 deg. can be lawfully sold nor used for illuminating purposes in this State.

The flashing point should not be confounded with the burning point, or fire test, which signifies that degree of temperature of heat at which



oil placed in an open vessel will ignite and burn without a wick. The fire test is not recognized by the Iowa statute, and has little or no value as determining the actual quality of the oil. Retail dealers should especially bear this in mind. Refiners and tank-line companies frequently brand oil "175 deg. Fire Test," "Head Light 175 deg.," or other trade mark which have no relation whatever, under the law, to the actual quality of the oil. The brand of an Iowa inspector, indicating the flashing point, is to be deemed the actual quality and standard of the oil. The average difference between the flashing and burning point of kerosene is 10 to 15 deg. the average being 20 to 27 deg. so that oil branded 175 deg. Fire Test should have a flashing point of 126 deg. Hence, no person should be misled or deceived by the dealer who says an oil is 150 deg. or 175 deg. Fire Test. Look at the inspector's brand, get the degree of flashing point there given, and add twenty-seven to it, and you will have very nearly the actual fire test. The law interposes no inhibition against trade marks, except that no trade mark asserting a fraud can stand.

The flashing and burning point are independent of each other. The flashing point depends upon the amount of naphtha, or volatile substance present, while the burning point depends upon the general character of the whole oil. The addition of only 2 per cent of naphtha would not affect the burning point, while it would lower the flashing point 10 deg. Hence the burning point is not deemed a reliable standard of safety.

The tendency of retail dealers is to purchase oil having a high flashing point, presumably on the theory that if oil having a flashing point of 106 deg. is safe, that of 126 deg. is so much safer. Theoretically that is true, but the higher the flashing point, the heavier the oil. Heavy oil congeals more or less in cold weather, will not rise freely, hence there is imperfect combustion. There is a limit to capillary attraction. Oil having a flashing point of 106 deg. to 110 deg. will give better illumination, burn freer, and with greater satisfaction in ordinary lamps, than an oil with a flashing point of 120 deg. or 126 deg.

Heavy, or high grade kerosene, has more or less paraffine, which tends to harden and clog the wick, and over-heat the wick-tube.

The fire test of oil is made in an open cup. The flash test, under the Iowa law, is made in a closed cup. It is proper here to say for the benefit of retail dealers, that experiments made covering thousands of tests, have shown that the average difference between the burning and flashing point of oil when both tests are made in the same cup, is from 20 to 27 deg. The average difference between the flashing point of oil tested in an open cup, and the same oil tested in the Iowa (closed) cup is 25 to 30 deg. The difference between the burning point of oil tested in an open cup, and the flashing point of the same oil tested in the Iowa (closed) cup is from 50 to 55 deg. Hence commercial Headlight carbon oil that has a burning point, or fire test, of 175 deg. tested as it always is by the refiner in an open cup, should have a flashing point of 120 deg. (minimum) to 130 deg. when tested in the Iowa (closed) cup. The specific gravity should not be above 48 deg. Fah. or 60 deg. Baume. If deficient in these requirements, as shown by the inspector's brand, a carbon oil could not be deemed true Headlight oil. Such oil will not give good satisfaction in ordinary flat-wick lamps, and should be used only with burners and wicks especially adapted for heavy oil.

#### LAMPS.

Lamps should be of metal. Glass lamps should not be used in families where there are children.

The bowl should be large in diameter, and shallow, not exceeding three inches in depth, so as to bring the flame as near the oil as possible, to secure an even combustion of all the contents. With deep lamps the wick will fail to raise the oil when half consumed; crusted tube and over-heated burner, and deficient illumination is the result.

The base should be large and heavy to prevent overturning.

They should be cleaned and filled every day, and once each week entirely emptied of their contents to remove the dregs and sediment.

When oil has been kept forty eight hours in a half-filled lamp, a dangerous vapor forms. This will be released by filling the lamp.

Never remove the top nor re-fill a lamp when burning.

Before lighting turn the wick down even with the tube and raise it gradually as the burner becomes heated.

Never blow down a chimney to extinguish a lamp. Turn the wick down until the flame flickers, then give a quick puff of breath horizontally across the top of the chimney.

Do not fill a lamp to overflowing, as oil expands greatly as it becomes heated, and may

matches, charred wick, crustation on the wick tube, and accumulation of charred wick on the perforated disk. The disk is for the purpose of supplying draft and the necessary amount of oxygen of the atmosphere to consume the carbon of the oil. When the disk is clogged, imperfect combustion and smoke are the result.

To clean the wick turn it up even with the tube and rub the finger lightly across it to remove the charred surface; do not cut it with shears.

Keep the vent-tube along the wick-tube into the lamp open and clean, as it is the safety valve of the lamp.

Gummed and clogged burners can be easily cleaned by boiling a few moments in sal-soda or concentrated lye and water.

Center-draft burners are rapidly displacing those with a flat wick. Properly constructed they supply oxygen of the atmosphere in larger quantity; increase the illumination with less oil; do not heat the oil, thus obviating danger from explosion, and give a more uniform, steady, brilliant light.

The rules for the care of flat-wick burners apply to center-draft burners.

The following is the result of tests made of several leading burners:

Kind of lamp.	Diameter of wick holder inside.	Temperature of oil after lighting.			Consumption of oil in 3 hours at 30 candle power.	Candle power (maximum).
		1 hour.	2 hours.	3 hours.		
B. & H. Improved.....	1 3-8 inch.	99½ deg. F.	104 deg. F.	104 deg. F.	10½ ounces.	44.4
Belgian.....	1 1-16 "	103 deg. F.	105 deg. F.	104 deg. F.	8 "	43.0
Pittsburgh.....	1 3-8 "	102 deg. F.	118 deg. F.	118 deg. F.	9½ "	37.1
Rochester.....	1 7-16 "	102 deg. F.	106 deg. F.	118 deg. F.	8 "	37.0

rise up the wick tube and become ignited and dangerous.

During the day keep the lamp where the oil will not become warm. Never set it on a mantel over a fire-place, grate, or stove where there is a fire.

Never leave a lamp burning with the wick turned down. Air currents are liable to cause the chimney to break; the wick tube will then become heated, and the lamp filled with a dangerous vapor. A burning lamp with a broken chimney becomes liable to violent explosion in about fifteen minutes. A lamp should not be left burning at all in a vacant room or house.

#### BURNERS.

The burner should be adapted to the oil to be used, whether heavy or light. It should be well made, of brass, not brass-washed tin, and as short as possible. It should be properly constructed for draft and ventilation for the escape of vapor from the vapor chamber of the lamp. It should burn without heating the burner—the cooler the better. The hinge Sun, Grand, and Banner for flat wicks, give satisfactory results with light oil.

The Dual, Duplex, Oxford, and Moehring will burn oil having a flashing point of 270 to 280 deg., yet the flame will not be so white as that from 106 or 110 deg. oil with a good burner, nor give so good satisfaction.

For heavy oil, a more liberal wick is required to raise the oil freely enough to supply the flame, hence two or more wicks are provided.

Foul and ill-kept burners is a more frequent case of poor light than the oil.

The so-called Hitchcock lamp designed to burn without a chimney, gives a steady, strong, clear, pleasing light of full sixteen-candle power, and being of metal, is commended for safety, economy and illumination.

Burners should be kept perfectly clean, inside and outside, and free from pieces of burned

The most important feature of a lamp is safety; second are brilliancy of illumination, economy, cleanliness, and durability. No lamp can be deemed safe in which the oil is heated over 106 degrees. The space above the oil in a lamp in which the oil is unduly heated becomes filled with a highly explosive naphtha vapor. The higher the temperature of the oil, the more naphtha vapor is thrown off. Hence there is great danger from moving a lamp which has been burning one or two hours, as the agitation will tend to force the vapor upward to the flame, when an explosion is inevitable. A lamp in which the oil is heated above 106 deg. should not be moved nor carried about a house when burning. It is safer not to use such a lamp at all, and thus obviate the danger that may arise from carelessness or negligence.

As will be seen by the foregoing table the "B & H" and Belgian lamps gave the best of the most important results, and they possess all that can be desired for durability, brilliancy of light and easy cleaning.

#### CHIMNEYS.

The chimney is an important factor in a successful lamp. If too large at the top the flame is unsteady; if too small, the burner and oil is over-heated. It should fit close at the bottom so that no air can pass under it. The bulb should be large and proportioned to the wick. There are more than fifty kinds of burners, and every one requires a chimney specially designed for it, to make the right draft. When broken they should be replaced with the same. Get the best flint or lead glass, bearing the maker's name, costing a little more, but the cheapest in the end. They are made of the purest and best material, and will not break from heat. There is no economy in buying the cheap, common glass chimneys to be found in stores generally. They are usually worthless. A puff of cold air upon them when



heated will cause their breakage, and render the lamp dangerous.

## WICKS.

Probably not one person in one hundred gives a lamp wick thought or attention. Yet it is one of the most important factors in the burning of kerosene, as it is also one of the most probable causes of complaint of the unsatisfactory burning of oil. The markets are filled with cheap wicks, worthless and valueless at any price. Select an "American" or "Fletcher" wick which will snugly fit the tube, yet move freely when saturated with oil. If it binds in the tube draw a few threads from it lengthwise. It should only reach the bottom of the lamp, and should be changed each month.

## SAFETY BURNING FLUIDS AND LAMPS.

A large number of so-called safety lamps and processes for making safety burning fluids have been patented to render it possible to burn the explosive naphthas without danger. A keg of gunpowder is safer in a house than either. Agents go about, selling recipes for making the so-called safety fluid, and claim that it is perfectly safe. It should be known that nothing can be added to naphtha that will change its explosive character.

No lamp is safe with dangerous oil.

The chief substance of this so-called safety fluid is gasoline, benzine, rhigolene, or other volatile constituents of naphtha—it is only naphtha under a false name, into which roots, gums, barks and salts have been introduced, only to leave it as explosive as before. The experiments given by the vender of these fluids to deceive the people are very convincing. To show his mixture is not explosive he will unscrew the wick tube, apply a match where the vapor, if any, quietly takes fire and burns without explosion; or he pours a quantity in a saucer and applies a match. There is no explosion, the customer is satisfied, and to save a few cents per gallon purchases the patent. Now, it should be borne in mind that a certain portion of air is necessary to cause an explosion of naphtha vapor. It requires some skill to properly mix these, and the vender is very careful that he does not do it. Equal parts of air and vapor will not explode; three parts air and one part vapor will give a vigorous flash; five parts air and one of vapor will give a loud report; eight or more parts air and one of vapor will give a violent explosion.

The sale or use of these so-called safety fluids, or of any oil for illuminating purposes, the product of petroleum, which has not been inspected in this State, and approved, is prohibited in this State, and all agents selling such should be arrested, and fined or imprisoned as provided by law.

NOTE—The oil used was marked "Eocene," with a flash test of 108 deg. F., weighing six pounds five ounces per gallon, and commended for special refinement. The temperature at beginning was 65 deg.

Miss June—Now, Mr. Alwrong, I want you to tell me what you think would benice for German favors.

Mr. Alwrong—Well; I should think pretzels and beer would be about the greatest favor you could confer on them.—*Chicago Inter Ocean*.

Mudge—Compulsory education is what I want.  
Yapsley—Yes; that is just what you want.—*Indianapolis Journal*.

She—I do not care to marry you. I do not care to even talk to you.

He (a widower)—That is precisely the reason I want you to marry me.—*New York Herald*.

## HOUSEHOLD.

## TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

## PRESERVED FIGS.

The weight of ripe figs in sugar, peel of one lemon and juice of two, a little ginger; cover the figs with cold water for twelve hours, then simmer in water enough to cover them until tender, and spread on a sieve to cool and harden. Make a syrup of the sugar and a cup of cold water for every pound. Boil until clear of scum; put in figs and simmer ten minutes; take them out and spread upon dishes in the sun. Add the lemons and ginger; boil the syrup thick, give the figs another boil of fifteen minutes, and fill the jars three-quarters full. Fill up with boiling syrup, cover, and when cold seal up.

## CANNED PLUMS.

Prick with a needle to prevent musting; prepare a syrup, allowing a gill of pure water and a quarter of a pound of sugar to every three quarts of fruit. When the sugar is dissolved and the water blood-warm, put in the plums; heat slowly to a boil; let them boil five minutes, not fast or they will break badly. Fill up the jars with plums, pour in the scalding syrup until it runs down the side, and seal.

## PRESERVED PEACHES.

Weigh the fruit after it is pared and the stones extracted, and allow a pound of sugar to every one of peaches. Crack one-quarter of the stones, extract the kernels, break them to pieces, and boil in just enough water to cover them until soft; then set aside to steep in a covered vessel. Put a layer of sugar at the bottom of the kettle, then one of fruit and so on until you have used up all of both; set it where it will warm slowly until the sugar is melted and the fruit hot through. Then strain the kernel water and add it. Boil steadily until the peaches are tender and clear. Take them out with a perforated skimmer and lay upon large flat dishes, crowding as little as possible. Boil the syrup until clear and thick, skimming off all the scum. Fill four jars two-thirds full of peaches, pour on the boiling syrup, and when cold, cover with brandy tissue paper, then with a cloth, lastly with thick paper.

## GREEN TOMATO PRESERVES.

Eight pounds small green tomatoes; pierce each with a fork; seven pounds sugar, four lemons—the juice only, one ounce of ginger and mace mixed. Heat altogether slowly and boil until fruit is clear. Take from kettle with perforated skimmer, spread upon dishes to cool; boil the syrup thick; put the fruit in jars, cover with hot syrup, when cold seal.

## STEWED CUCUMBERS.

Pare, lay in ice water an hour; then slice a quarter of an inch thick, pick out the seeds with a penknife and put in a stew pan with enough boiling water to cover them; stew fifteen minutes and drain off the water. Add enough from the tea kettle to keep them from burning; season with salt and pepper, and stir in carefully a tablespoonful of butter. Stew gently ten minutes; add half a cupful rich milk; thicken with a little flour; boil up, serve in a deep dish, squeezing some lemon juice in at the last.

## GREEN CORN PUDDING.

Grate the corn from the cob of a dozen ears, beat the whites and yolks separately of five eggs;

put the corn and yolks together, stir hard and add two tablespoonfuls melted butter; add one quart of milk gradually, beating all the while; then one tablespoonful white sugar and a pinch of salt; lastly the whites of the eggs. Bake slowly at first, covering the dish, for an hour; remove the cover and brown nicely. This is a most delicious accompaniment to a meat course.

## ALL SORTS OF OMELETS.

That omelets are excellent in winter nobody can deny. But omelets in summer are a positive blessing. They are light, delicate dishes that can be eaten when the mind revolts at meat and will have none of fish. And there is enough variety in them to avoid monotony, even if they are made a daily feature.

Plain Omelet—Beat the whites of six eggs stiff, and the yolks to a thick batter. Add to the yolks a cup of milk, pepper and salt, and a teaspoonful of bread crumbs soaked in milk. Then stir the whites in lightly. Have ready in a hot frying pan a large lump of butter. When it begins to boil pour in the omelet and set over a clear fire. Avoid stirring it, but, as the eggs become firm, slip a broad knife or cake turner under them to guard against their burning. In less than ten minutes the omelet will be done. To get the omelet safely out cover the frying pan with a hot plate, bottom upward, and upset the pan. Eat at once.

Ham, Tongue, or Chicken Omelet—Make as plain omelet is made, but when it is done sprinkle the minced meat over the top. Then with the cake turner fold the omelet in half, inclosing the meat. Or, if you prefer, stir the minced meat into the omelet mixture just before frying.

Cauliflower or asparagus omelet is made by stirring very finely chopped cauliflower or asparagus tips into the eggs just before pouring into the pan. Season highly.

For tomato omelet spread tomato over the surface when cooked, and double. For herb omelet, stir into the plain omelet mixture just before cooking two tablespoonfuls of chopped parsley, green thyme, and sweet marjoram. Cheese omelet is made by lightly stirring in grated cheese with chopped parsley. Sweet omelets are delicious as desserts for home luncheons and teas. To make omelet souffle by frying, beat the whites of six eggs until they can stand alone. Beat the yolks stiff and stir into them slowly four tablespoonfuls of sugar. Put into a frying pan two tablespoonfuls of butter and heat to boiling. Stir a teaspoonful of vanilla into the omelet, whisk the white in very lightly and pour into the pan. It will cook in a few minutes, but the turning knife must be used constantly to keep it from sticking to the bottom or sides of the pan, as the sugar increases the tendency to scorching. Turn out upon a very hot dish, sprinkle with powdered sugar, and serve at once.

Baked omelet souffle requires six instead of four tablespoonfuls of sugar, and is flavored with the juice and half the grated rind of a lemon. Mix as for fried omelet, pour into a buttered dish, and bake for five or six minutes in a quick oven. Serve from the same dish.

Apple Omelet—Peel, core, and stew three large apples. Beat smooth. Add a tablespoonful of butter, three tablespoonfuls of sugar, and a little nutmeg. Beat the whites and yolks of four eggs separately. Soak about a half teaspoonful of bread crumbs in some milk; add to the yolks. Stir the yolks into the apples, add a little rose water, and stir in the whites. Warm and butter a deep bake dish, pour in the mixture, and bake until delicately browned.—*The Confectioner*.



## SCRAPPLE.

This article is of Dutch origin, and was introduced many years ago by the Dutch farmers of Pennsylvania. It is an inexpensive dish, and when well made and properly seasoned and cooked, it is not hard to take. It is made as follows: When killing and cutting up hogs, reserve the heads, skins, and all scrap pieces; put all these into a large boiler, cover them with water and boil them till the meat leaves the bones; then strain off the liquor, and when the residue is cold pick out all the bones and grind the meat very fine, in a mill made for the purpose; add this ground meat to the strained liquor, and bring all to a boil; then stir in Indian meal and flour (middlings) sufficient to make all about the consistency of mush; season with salt and pepper to your taste. Now with a ladle fill pans with the mixture, and when thoroughly cold it may be cut into slices half an inch thick, dusted with flour and fried in hot lard, first upon one side, then on the other, in the same manner as you would mush. Some persons season it also with sweet herbs, dried and rubbed very fine. Fried scrapple makes an excellent breakfast dish, and is highly relished by many good lovers in this quarter.

## SUDDEN DEATH TO FLIES.

"Come inside a minute," said a Fourth Avenue dealer in pianos, recently. "I have discovered the greatest fly trap on earth and I want to show it to you." He led the way to an instrument at the rear of the store on which was a newspaper. On the paper had been placed a bunch of sweet peas. At least a thousand dead flies were lying on the paper in the immediate vicinity of the bunch of flowers. "I threw these here by chance," he continued, "and in about ten minutes I happened to notice that every fly that alighted on the flowers died in a very short time." Even as he spoke a number of the insects which had stopped to suck the deadly sweet had toppled over dead. They alighted with their usual buzz, stopped momentarily, quivered in their legs, flapped their wings weakly several times, and then gave up the ghost.—*Louisville Journal*.

## VERMIN.

It may not be a very pleasant subject, yet it will be found convenient by mothers having children in school, whence they are apt to come home with vermin in the hair, to know that the following harmless application, to be had in any drug store, will effectually remedy and prevent the evil:

Olei Staphisagriae.....1 oz.  
Olei Limonis.....1 drm.  
Olei Amygdalae ad.....4 oz.

Mix.

To be applied to the affected parts daily.

## A NEW AND QUICK FURNITURE POLISH.

In the German patent list we find the following specification of a patent for a new furniture polish, issued to Paul Theil, of Copenick, near Berlin:

Resin of guaiac.... 125 parts.  
Gum benzoin.....125 parts.  
Shellac..... 30 parts.  
Linseed oil.....150 parts.  
Benzin..... 30 parts.  
Alcohol, or wood spirit.....3,000 parts.

Mix, and dissolve. The polish is applied with a

sponge or brush, and the object is let stand for a half-hour. A linen cloth moistened with oil is then used as a rubber, and a brilliant polish is obtained which is said to be very lasting, and is unaffected by water or other substances which usually injure varnish. Another advantage of it is that it may be applied to woods that have never been varnished or polished, and gives a result equal to the best French polish. No skill is said to be requisite in its use. The rubber must be of linen, and oiled only sufficiently to prevent its sticking when first applied.

## CREMATING GARBAGE.

An improvement in the mechanism employed for cremating garbage has lately been effected, which is declared to realize a most important desideratum—the spreading of the flame to all parts of the furnace in which the waste matter is deposited, just the same as would be the case in a coal or wood fire. The burner employed is a tube four inches in diameter bent at a right angle, one arm being two feet long and the other one foot, and there are two smaller pipes inside this large tube, one of which is inside the other. The end of the burner shows three openings; from the centre one comes the steam; from the next one, a narrow rim outside the steam pipe, comes the oil, and from the last and largest of six outside holes in the face of the burner comes the air, which is pumped or forced from the blower, driven by the engine. Thus the oil from the tank outside flows by gravity to the burner, where it is taken by the air current, which completely surrounds the oil, and carries it from four to fifteen feet as a body of glowing flame, then by a peculiar spiral method of boring the air holes in the face of the burner, a rotary or whirling motion is given to the burning flame, causing it to expand and fill the whole chamber. The combustion produced by using both air and steam is the most intense heat that can be obtained by artificial means—too powerful for anything to endure more than a few moments. Iron melts at 2,700 deg. and this heat is nearly 4,000 deg.

## HYGIENIC.

## POLLUTED WATER NOT DRUNK MAY BE THE CAUSE OF DISEASE.

In very recent times we have heard a great deal about the part played by water in the dissemination of disease, and while what we have heard is, in the main, true, it is only partly true, and in consequence, the public, while awake to the possible danger from this source, does not, I fear, quite appreciate the point or points at which the greatest danger is to be anticipated. The result is that precautions are taken in one direction, and neglected in another of equal or more importance. To define more clearly at what I am driving: Many individuals will say with confidence that they have no fear of cholera entering their household, and will give as a reason that only boiled water is drunk, but if the individual is asked if only boiled water is used in washing his green salads, or for rinsing his milk jug, or if he is certain that boiled water is employed in the manipulation of the dairy from which he receives his milk supply, the probabilities are vastly in favor of his reply being in the negative. The danger is not alone in the drinking of waters polluted by disease-producing elements, but also, and probably to a greater extent in the general use of such water about the household. A very vivid example of the part that pol-

luted water may play in the production of diseases, even though it be not drunk, is the outbreak of typhoid fever in the Third Brandenburg regiment, described by Gaffky. Every source of infection was excluded except a pump, the water of which was used in rinsing dishes, beer mugs, etc. Investigation showed that the well of this pump was in direct connection through the soil with a privy pit a short distance away, into which the evacuations of a typhoid patient had some time previously been thrown. As stated, the water from this pump was not used for drinking purposes, but was employed only about the scullery.—*The Sanitarium*.

## CISTERN WATER.

We would call attention to the comparative safety of cistern water. It is true that cisterns in thickly populated districts afford water containing organic matter in considerable amounts, and that cistern water has been condemned by some writers on this account. But dead organic matter is not specially dangerous, and water-borne diseases are those produced by disease germs which the water contains. While the atmosphere may contain certain disease germs which might be carried by rains into cisterns there is nothing to show that the germs of the only two diseases commonly contracted by the use of polluted water—typhoid fever and cholera—ever gain access to the cisterns in this manner.

If cisterns can be protected from water in the soil, and if a little care is taken to exclude the first roof washings, cistern water will be practically free from all danger.

There are many things in favor of the cisterns in use in Venice, and it would appear that they could be used with advantage in this country. An excavation is made about 8x10 and seven to eight feet deep. The sides and bottom are carefully puddled so as to be absolutely water-tight. A circular well-hole of brick is built in the center and a little above the top of the excavation, the bricks to within a foot of the bottom being puddled. Three or four openings are left at the bottom of the well-hole for admission of water.

Filtering material of any description desired is then filled in to the top of the excavation, and closely packed around the well-hole. Water-spouts should be arranged to discharge upon the filter at two or three places. The cistern and filter may be enclosed to protect against dirt and vermin, and also against surface water.

One of the great advantages of this cistern is the ease with which the filter can be cleaned, or new filtering media substituted.—*Ohio Monthly Sanitary Record*.

## BICYCLE RIDERS SHOULD NOT STOOP.

DR. SARGENT SAYS THAT CONTINUED STOOPING IN BICYCLE RIDING MAY SERIOUSLY IMPAIR THE HEALTH OF RIDERS.

When you see one of your friends go shooting along the street on a bicycle, his head bent forward, his shoulders cramped and his back describing a beautiful curve, just remember that unless the young man makes a radical change in his method of riding, and sits erect, the curve in his back may become permanent, and the cramped shoulders may lead in time to serious trouble with the lungs or heart. At least, that is what Dr. Sargent of the Harvard Gymnasium, says. In speaking about the matter this morning he said that so many bicyclists were adopting, either through carelessness or design, the marked stooping posture in riding, that rounding shoulders were growing to be recognized as a common result of bicycling. The doctor has a large cor-



respondence with many different people about health matters, and not a few of the letters that come to him are from parents whose sons are growing round-shouldered simply from riding bent far forward on their wheels. Dr. Sargent always advises against such a position while riding, for he believes it may lead to serious trouble in the health of the rider. When a man has once acquired the "bicyclist's stoop" the only remedy is a course of exercises to strengthen and straighten the shoulders and back, similar to the exercises which are prescribed when a man's shoulders are rounded over from any other cause.

One of the worst things about the stooping in bicycle riding is that it puts round shoulders on men who would in most other cases be free from them until late in life. Dr. Sargent thinks that while a stooping posture may be pardonable in a race, for the reason that it allows better time to be made, in ordinary road riding it is both unwise and unnecessary.

## MEDICAL.

### DANDRUFF.

Dandruff is simply a dry catarrh of the scalp. It is a condition in which the cells of the skin are thrown off too profusely. The skin is composed of three layers—the true skin, that next to the muscles; the pigment layer; and the dead cells, or scarf skin, on the outside. With a sharp knife you can scrape off the outer layer, in the form of little white scales. It may not be generally known that man is an animal with scales like a fish, but if you will examine this white scurf with the microscope, you will find that it is composed of scales similar to those of a fish. And these extend all over the body.

When one takes a Turkish bath, these scales

are softened up, and are rubbed off in the shampoo, so that, to a certain extent, the person is skinned. These scales are rubbed off by the clothing and come in contact with other bodies. This process is going on all the time, and those parts of the body which are most exposed and have the most attrition with external bodies, are kept the more thoroughly cleansed and free from this condition of dandruff. You will never find scales in the palm of the hand, because frequent contact with various objects keeps the dead scales rubbed off and the palm free.

But on the head, where the hair prevents this exposure of the skin directly to contact with outside bodies, these scales are retained in great numbers. Especially is this so when the head is covered much of the time by a hat or bonnet. The scales are thrown off, but they are held about the roots of the hair, and in this way one may have an accumulation of dandruff even when the skin is healthy. In this case, the remedy consists in brushing the scalp thoroughly and frequently. Most people make the mistake of brushing the hair; it is not the hair that needs to be brushed, but the scalp. This is very important for the health of the scalp. You will notice that the good barber puts aside the hair with his finger, and follows his finger with the brush, until he has brushed the entire scalp in this way. By this means the scalp is thoroughly cleaned. The scalp should be brushed in this way at least three or four times a week, in order to keep it free from dandruff, or from those scales which are constantly being thrown off.

A neglect to remove these scales from the body produces a very unhealthy and disagreeable state of things, in other parts of the body than the scalp. It sometimes causes itching of the arms and legs, particularly about the knees and shins, where the scales have a tendency to accumulate, if one does not bathe frequently.

Every hair on the body grows from a little pocket in the skin; and when these little scales are not promptly removed, they get over these pockets, and then the hair, in attempting to grow is forced to lift the scalp up. This is what causes the itching that is so disagreeable.

Equal parts of alcohol and castor oil, applied after a thorough shampoo with good soap and water, is the best remedy for dandruff.—*Pacific Medical Record*.

A PRESCRIPTION THAT PLEASED.—An old Highlander, rather fond of his glass, was ordered by his doctor during a temporary ailment not to take more than once ounce of spirits in the day. The old man was a little dubious about the amount, and asked his boy, who was attending school, how much an ounce was. "An ounce—sixteen drams, one ounce." "Sixteen drams!" exclaimed the delighted Highlander. "Gaw! no' so bad. Run and tell Tonal Mactavish and Big Duncan to come doon the nicht."

"Lightning never strikes twice in the same place" they say?"

"No?"

"No."

"Well, how do you account for it?"

"Must be manipulated by a woman, I suppose."  
—*Detroit Tribune*.

"What can I do for my little boy," asked mamma, "so that he won't want to eat between meals?" "Have the meals ficker together," replied the young gourmand.

Young Lady—Mercy me! And so, when fast in the jungle, you came face to face with a tiger. Ooo! What did you do?

Modern Traveller (proudly)—Photographed it.  
*New York Weekly*.

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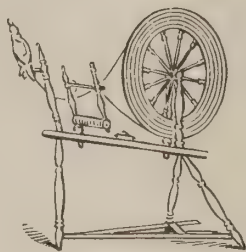
Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.



## SERIOUS INDICATIONS.

It has been officially announced that the European International Medical Congress, the annual meeting of which was set for Sept. 24, is indefinitely postponed on account of the cholera and no session will probably be held before 1894. The apprehension must be very grave which is allowed to interfere with this scientific conclave and despite the evident efforts at suppression of information concerning the epidemic, sufficient facts have leaked out to show that there is good ground for the most serious anxiety. In Russia, the cholera has spread, cases occurring in localities not hitherto affected, and, notwithstanding the earliness of the season, the virulence of the disease is reported as remarkable. It has broken out again at Hamburg and the steamship companies running lines between our ports and continental Europe are already hastening to assure the public of the perfection of their arrangements for quarantining intending passengers, on the other side, before they are allowed to start for our shore. In France cases of genuine cholera are reported from widely scattered localities and it seems to be moving with slow but fatal certainty upon Paris. The Quarantine authorities at New York are already erecting new buildings and vastly increasing their facilities for handling great numbers of cholera cases during the summer and fall. Any morning we are liable to find



## Too Slow

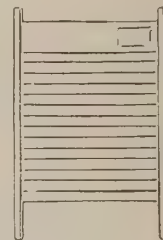
in making clothes, this was. It had to go. And yet people thought it a pretty good thing in its day. Some of them couldn't believe, all at once, that there was anything better. Just so with every improvement. The old way always has some benighted ones who cling to it to the last.

## Too Fast

in ruining clothes, un-making them—that's the trouble with the washboard. But it's going now and going fast, to join the spinning-wheel. Women find it doesn't pay to rub their clothes to pieces over it. They can wash better with Pearlline. Less work, less wear, no ruinous rub, rub, rub. That's the modern way of washing—safe, easy, quick, cheap. No wonder that many women have thrown away the washboard.

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it Back

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearlline." IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearlline, be honest—send it back. 378 JAMES PYLE, New York.



# Indigestion

## Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

Dr. W. W. Gardner, Springfield, Mass., says: "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For Sale by all Druggists.

in the newspapers the startling intelligence that the cholera has been found aboard some European steamship held at Quarantine. But, is any one so fatuously sanguine as to imagine that if it reaches there, all possible precautions will prevent it advancing further among us?

Small as he is, the cholera bacillus possesses a wondrously persistent vitality. Falling from the infected air about one pest-laden fugitive fleeing from a stricken Russian town, the maleficent atoms may find lodgment in the garments of a score of persons, in some English port or aboard ship, who may themselves never have been near a place where the contagion was known to have reached. Packed in the trunks of those persons, the germs may first be set at liberty in the interior of our country, say in Chicago, whither visitors from all parts of the world are now hurrying. Let it be borne in mind that the cholera bacillus will travel in a lady's silken train quite as well as in an artisan's dirty blouse.

The infection once started, it will naturally select as its first and easiest victims, two classes, those who fear it and those whose vital conditions are so low as to invite it. Courage, reason, even a sincere fatalism, may be safeguards against the deadly effects of fear; but only well directed and efficient constitutional treatment for purification of the blood, energizing of the vital organs, elimination of effete and injurious matters from the system, and consequently enhancement of the vitality can make one able physically to resist the attacks of the disease. Yet, after all, this is not difficult. It is certainly easier than infusing courage into a coward that he may have moral protection. A course of Ayer's Compound Extract of Sarsaparilla will do for any one all that has been outlined as requirements for bodily protection. It is the most powerful, and at the same time the safest of all alternative medicines. Every one should use it now.

## DEAFNESS CANNOT BE CURED.

By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian tube. When this tube is inflamed you have rumbling sound or imperfect hearing, and when it is entirely closed, deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

We will give One Hundred Dollars for any case of deafness (caused by catarrh) that cannot be cured by Hall's Catarrh Cure. Send for circulars; free.

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## ADULTERATION.

### HONEY ADULTERATIONS.

Some months ago the AMERICAN ANALYST published a series of articles on the subject of honey adulterations, in which were summarized the results of analyses made by the Department of Agriculture. There was considerable complaint made that these analyses were not just. Now we have before us a report on honey analyses made by the Michigan Agricultural Experiment Station, by A. J. Cook. The summary of the results of these analyses by that gentleman which we herewith publish may perhaps throw some instructive and valuable light on the subject. He says:

We are thus assured by these analyses:

1. That chemists can easily detect adulteration of honey by use of glucose, in all cases where it is likely to be practiced. The same would be true if cane sugar syrup was mixed with the honey.

2. That a probable method to distinguish honey dew honey from honey adulterated with glucose has been determined by these analyses. The right-handed or slight left-handed ration together with the large amount of ash, and small amount of invert sugar indicate honey dew honey. As honey dew honey will never be put into the market, this question is of scientific rather than practical importance.

3. As yet the chemist is unable to distinguish between cane sugar syrup honey—by which we mean cane sugar syrup fed to the bees and transformed by them into honey, and not cane syrup mixed with honey, which is adulteration pure and simple, though a kind not likely to be practiced—and honey from flowers. As the best cultivated taste cannot thus distinguish, this seems of slight importance. If it should prove to be important to be able to distinguish them it is probable that the chemist will discover the means, as chemistry has very delicate eyes, and can usually scratch out very slight differences.

We see that there are yet unsolved problems in this direction. And it is desirable to follow up the investigations.

### RUPPERT'S SKIN TONIC IN DUBLIN.

Mme. Anna Ruppert came to grief in Dublin, having been charged by the Pharmaceutical Society of Ireland with selling a skin specific containing poison, and with not being duly licensed under the Pharmacy Act. The official analyst proved that "Ruppert's Skin Tonic" contained corrosive sublimate in solution; also, that the ingredients were worth about a halfpenny per bottle, whereas the price to the public was half a guinea! Madame was fined \$5 and costs, which, with a profit on her preparation of some 35,000 per cent, she could well afford to pay.

### IMITATORS OF LEA & PERRINS' SAUCE STOPPED.

Lea & Perrins have been vigorously prosecuting restaurant keepers in England who are serving sauce from their bottles, but not of their manufacture. In many cases they have obtained injunctions, with costs to the defendants.

### WHAT SHE EXPECTED.

"I don't suppose you are one of the people who put sand in their sugar?" said the jocose man to the grocer.

The grocer smiled faintly and sadly as he answered:

"That's another of the popular fallacies. People always talk about putting sand in sugar. If sugar gets any cheaper'n it is now, I expect to see builders buyin' it to adulterate their sand with.—*Washington Star.*"

### THE DEADLY DOG.

The last excuse is gone now for not killing off all the worthless cur-dogs. It is stated on good authority that it is now conceded in France that Pasteur's treatment for hydrophobia, i. e., his inoculation with the marrow of the backbone of an animal dead of rabies, to prevent rabies in persons who have been bitten by a mad dog, is a failure; that the real virtue in it, if any, is that of a protective against rabies if injected before the bite—like vaccination will prevent an attack of smallpox, but after the disease has set in will not prevent eruption and fever. Who would not rather risk being bitten than the inoculation?

Now, in the name of common sense, why not prevent the bite? "Science admits that she has no cure for hydrophobia—not even a remedy that will palliate the severity of the dreadful symptoms." A person bitten by a rabid dog must surely die, die a horrible, lingering death—in convulsions and unbearable torture. If the dog filled any niche in our economy, if he could show the least excuse for being here—fed in idleness and worse than vagabondism, we would moderate our views, perhaps; but cannot, and he is a standing danger, more imminent and deadly than the rattlesnake or centipede or tarantula, for they are rare; but the "deadly" dog we have always with us. Will people never be warned?—*Texas Sanitarian.*

## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

REX: What is *appendicitis*?

A.—*Appendicitis*, sometimes also called *typhlitis*, or *perityphlitis*, is an inflammation of the *appendix vermiformis*, or, as one writer calls it, the "pigtail attachment of the caecum." The *caecum* is the dilated commencement of a large intestine, lies below the *ileum*, and occupies the right iliac fossa. It forms a large *cul-de-sac*, closed in below, but communicating freely above with the ascending colon. Opening on the inner and posterior wall of the *caecum* is the *appendix vermiformis*, which is a slender hollow prolongation of the bowel, varying in length from three to six inches. It has the calibre of the stem of a common clay tobacco pipe, and ends in a free closed extremity, so that like the *caecum* it is a *cul-de-sac*. It has been the popular but erroneous view that the cause of this much dreaded and formerly very fatal trouble has been the proneness of seeds of grapes, oranges, apples and other fruits to find their way into the *vermiform appendix* and there set up an inflammatory process and that even physicians of experience still hold to it, but we make bold not merely to doubt the truth of the idea, but to state that no experienced surgeon of the present day holds to it. Surgeons who have made many operations for *typhlitis*, state that in no instance in examining the organ have they ever found a seed or the remains of a seed or seeds in it. The *appendix vermiformis*, according to the convictions of the most eminent naturalists and anatomists, is but a residue of development, a reminder of our genealogy, a rudiment of the elongated *caecum* of most herbivorous animals. It is not peculiar to man, but exists, in a

more or less modified way, in his nearest congeners, the anthropoid apes, and also in the wombat, one of the lowest of the monkey tribe. Very recently it has been shown to possess the property of peristaltic motion, and that naturally it thus rids itself of whatever fecal matter that may get into it.

### THE WORLD'S CANDY EXPOSITION.

The World's Candy Exposition will be held at Lenox Lyceum, corner Fifty-ninth street and Madison avenue, New York, opening at 6 p. m., November 6, and continuing until Saturday night November 25, Sunday excepted. The New York confectioners have taken great interest in this affair and will endeavor to outshow anything of the kind ever held. While given by the American Manufacturers, it is under the personal management of W. F. Russell, of Philadelphia, president of the Cape May and Delaware Bay Navigation Company, and a member of the firm of Russell & Mason, and Mr. Louis W. Buckley.

The lines eligible for display are all kinds of candies, glazed fruits, chocolates, cocoas, Christmas tree and wedding ornaments, chewing gums, confectioner's supplies and machinery, nuts, raisins, fruits, ice cream and ice cream machinery, waxed papers, bon-bon boxes, paper bags, store fixtures, flavoring and root beer extracts, soda water and soda fountains, licorice, fancy cakes, etc. An office has been opened by Mr. Louis W. Buckley, one of the managers, at 776 Madison avenue, New York, where all particulars may be obtained.

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A paint for damp or moldy walls is prepared by mixing 93 pts. powdered brick and 7 pts. powdered litharge (both ground separately) with a sufficient quantity of linseed oil to a thin paste, which, applied to the walls, solidifies in three to four days and allows no more moisture to pass.—*Maler Zeitung.*

## BUSINESS NOTES.

### THE COST OF A LEAD PENCIL.

The greatest cost in making first-class lead pencils is not in the wood, even when the smoothest and straightest grained Florida cedar is used, nor in the finishing and stamping of the pencils, though the finest varnish and purest gold are used. The greatest cost is in the time and labor spent in manipulating the materials of which the leads are made. The materials used in making such leads are the finest and smoothest graphite and clay.

The graphite is specially selected for the purpose, and is most carefully floated through water time and again, which allows the grit and coarser particles to sink and become separated. The clay is also subjected to similar thorough and careful treatment.

The proportion of clay determines the degree of hardness; and therefore, in order that the leads may be uniform in hardness as well as toughness, long-continued grinding and mixing are necessary, as well as other painstaking operations, before the leads are perfected and ready for the wood and the finishing processes. In cheap pencils, no matter what the finish may be, the leads receive but scant attention.

This will explain the difference between Dixon's "American Graphite" pencils and others that "look just as good," but last not half as long.

### TWENTY-EIGHT ENGINEERS RUN THE "FLYER" FROM NEW YORK TO CHICAGO.

So it results that twenty-eight engineers, one at a time, are required to run this wonderful train from New York to Chicago and back again. Fourteen veterans drive the great engines one way, and fourteen brother veterans drive them the other. Twenty-eight men for a single complete trip of a single train, and they the flower of American engineers, splendid fellows every one of them, with cool heads, stanch hearts, and the experience of years at the throttle. The fact is, these men of iron, who, after all, are made of flesh and blood, have been called upon of late years to bear a mental and physical strain which has increased steadily as the speed rates have advanced. Forty, fifty, sixty, seventy, and now eighty miles an hour, each greater velocity has meant greater pressure, not only on the boilers and cylinders, but on men's brains; has meant greater expenditure, not only of coal and dollars, but of nerve force, until now experts recognize with concern that the limit of human endurance has been almost reached. Science may remove the mechanical difficulties in the way of running a hundred miles an hour, or more, for such a rate has already been predicted; money may buy better axles, wheels, lubricators, and machinery, but where are the men who will run these trains of the future when they are built? Can science breed us a race of giants? Can money purchase an immunity against suffering or eyes that are indestructible? If twenty-eight engineers are required to-day on the Chicago flyer, how many, pray, will be necessary on a train running 50 or 100 per cent faster?—*McClure's Magazine.*

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OUTLINES OF PRACTICAL HYGIENE, Adapted to American Conditions. By C. Gilman Currier, M. D., Visiting Physician to the New York City Hospitals, Fellow of the New York Academy of Medicine, Member of the New York Pathological Society, Member of the American Medical Association, etc.

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The latest method of spelling certain terms, as adopted by various scientific bodies and authorities, have all been included, as well as those words classed as obsolete by some editors, but still used largely in the literature of to-day, and the omission of which in any work aiming to be complete would make it unreliable as an exhaustive work of reference.

The publishers announce that, notwithstanding the large outlay necessary to its production on such an elaborate plan, the price will be no higher than that of the usual medical text-book. The above is an advance announcement of a most important work to be published by P. Blakiston, Son & Co., Philadelphia.

### THE CALIFORNIAN ILLUSTRATED MAGAZINE.

The October number of the *Californian* comes out superbly illustrated and rich in matter peculiar to its unique field. Both sides of the Pacific Coast have their interests represented; for, aside from the usual large amount of space given to the States west of the Rockies, Mrs. Helen Gregory-Flesher contributes a charming and very instructive account of "The Professional Beauties of Japan." "Around the Garden of the Gods," by J. J. Peatfield, is a vivid description of the famous scenic park, the first discovery of Pike's Peak, and the subsequent explorations and settlements of the vicinity. The pathetic legend of "The Wild Woman of San Nicolas Island" is told by James M. Gibbons, with a striking frontispiece by Alexander Harmer, and another pathetic legend of the West is the story of the "Fra Diavolo of El Dorado," by the well-known writer Neith Boyce. The advantages of California as a health resort are set forth by Dr. P. C. Remondino; while persons interested in sporting and hunting will find Mr. George Macdougall's account of the sportsman's companion, "The Deer Hound in America," quite to their taste.

The cosmopolitan character of the magazine is sustained by a graceful descriptive sketch of the

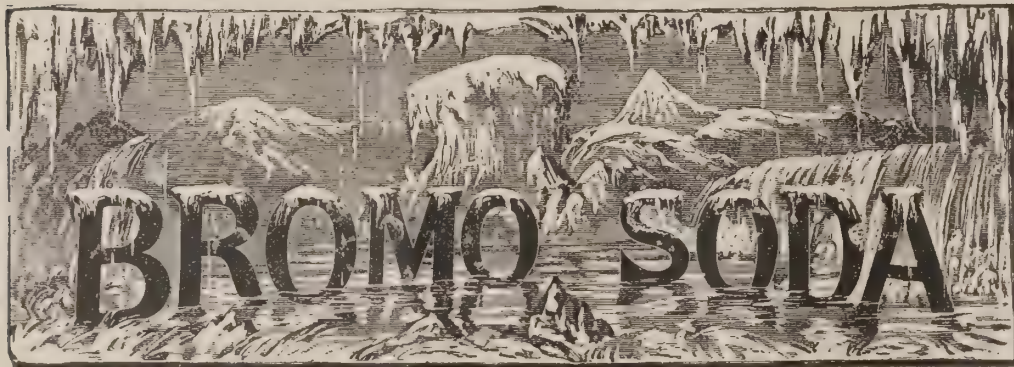
historic Italian town of "Fiesole," by Grace Ellery Channing. The political and national interests are attended to in an article by R. H. McDonald, Jr., on "The Future of the Republican Party," and in an able history of the currency question by E. R. Endres.

Lieutenant Fletcher and Rosalie A. Knell contribute the fiction of the number.

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Single Copies, - - - - - 5 cents.  
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Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

OCTOBER 15, 1893.

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### CANNED VEGETABLES.

The report of the government chemists on canned vegetables, the commencement of which we published in our preceding issue, seems to have created considerable feeling. It was somewhat amusing to see how as a general thing those packers who evidently felt that they had been guilty and found themselves exposed, blustered and tried to bluff out of the scrape they were in, while those who were conscientiously innocent of any wrongdoing, started in to make an investigation. No doubt some mistakes have been made, but a packer simply saying that the government officials are falsifiers if nothing worse and that their report is ridiculous will convince no one. A rigid investigation by competent men is needed to discover in what cases and how mistakes have been made. Such an investigation is now being made. The results will establish the innocence or guilt of the packers. This alone will satisfy the consumers. It may be added also that many of the packers' names given in the report are fictitious.

### COLUMBUS—VERAGUA.

How strange that everything pertaining to Columbus historically or genealogically has a fishy taint. The following may serve to point out this lesson, if indeed it needs pointing. Even Chicago has dropped Columbus; he was a "good enough Morgan" until the Columbian Fair had been boomed, and then he was dropped. It has gradually become the White City, the World's Fair, or the Chicago Fair.

No doubt there is something in heredity; but there is too much made of it. The son of Columbus was one-half his blood; his grandson,  $\frac{1}{4}$ ; his great grandson,  $\frac{1}{8}$ ; the fourth generation,  $\frac{1}{16}$ ; the fifth,  $\frac{1}{32}$ ; the sixth,  $\frac{1}{64}$ ; the seventh,  $\frac{1}{128}$ ; the eighth,  $\frac{1}{256}$ ; the ninth,  $\frac{1}{512}$ ; the tenth,  $\frac{1}{1024}$ ; and the Duke of Veragua is  $\frac{1}{3072}$  Columbus!

The estimate of character on heredity is immeasurably more uncertain in men than in horses, the latter having no independent, self-regulating, and improving or deteriorating power. The remaining  $\frac{2947}{3072}$  of the duke is a melange defying analysis.

If it be said that heredity is not governed by a mathematical law, and that the duke may have more of Columbus's blood than this calculation indicates—true; or less.

From this point of view the newspapers that have been publishing cuts of the duke, and affirming that he resembles the pictures of Columbus, are in a ludicrous attitude; especially as there is a large number of portraits, etc., among which critics find little resemblance.

One can, nevertheless, hardly restrain a feeling of pity for the duke, whose entrance and career here were majestic, but whose heart must been sad beneath the pageant, and whose exit was that of one "so weary with disaster, tugged with fortune."

### FOLLIES OF NEWSPAPER SCIENCE.

An item is going the rounds of the press to the effect that at the Paris Exposition of 1900, among the objects of curiosity will be a telescope which will apparently bring the moon to within a yard of the earth. In other words, we will be able to observe the moon about as we do the world around us.

On which the *National Druggist* very aptly comments thus:

To anyone acquainted with the rudiments of optics, this is so absurd that it would scarcely merit contradiction; but, unfortunately, the great bulk of newspaper readers know nothing of optics, and care less; and, also unfortunately, the human being is prone to accept as true anything that smacks of the marvelous—the more marvelous, the readier men are to believe.

The laws regulating the amplification of an image in a compound instrument like the telescope are fixed, and enable us to calculate with great exactness the focal length of an eye-piece, and of the object glass, whose combined effects shall give any desired amplification. Not to go into the scientific discussion of these principles,

we will state, as a fixed rule, the amplification depends upon the focal length of the eye-piece and that of the object glass—the shorter the former the shorter the latter—and hence, of the length of the tube necessary to attain any given amplification. The formula for ascertaining the magnifying power of a telescope, roughly stated, is  $F_e$ , where  $F$  is the focal length of the object glass, and  $e$  that of the eye-piece.

Let us admit for argument's sake, that at the end of the century engineering skill and manufacturing facilities will have reached a point at which the construction of a tube or body for the telescope, of any desired length and diameter—say 500 miles long—will be a mere bagatelle. Let us also suppose that by that time opticians will be able to construct object glasses of any desired diameter, and eye-pieces of any desired shortness of focus. Let us take  $\frac{1}{32}$  inch as the focal length of the eye-piece (many times shorter than at present possible), which will give an amplification (roughly) of 300 times the image made by object glass. The moon is approximately 238,500 miles away from us, or say 420,000,000 yards. To bring her to the apparent distance of one yard, with an eye-piece of  $\frac{1}{32}$  inch focal distance, would therefore require a tube length of about 420,000 yards or say 300 miles. The object glass would have to be (roughly speaking) about twenty-six miles in diameter. We think that the reader will agree with us that this is beyond even the possibilities of fin de siècle engineering and optical skill.

## CANNED VEGETABLES.

### REPORT OF INVESTIGATIONS AND ANALYSES.

BY K. P. M'ELROY AND W. D. BIGELOW.

[Continued.]

#### HISTORICAL NOTES.

The process of preserving food by canning in its present form appears to date back to the patent of Pierre Antoine Angilbert in 1823, though it is said to have been in use at least three years earlier. The method described by Angilbert does not vary essentially from the present practice. The food, together with some water, was placed in a tin can, a lid carrying a minute aperture fastened on and heat applied. When the liquid in the can boiled briskly and all air was expelled, the hole was closed with a drop of solder.

Preserving food in bottles instead of cans, but by a method identical in principle with that just described, is an older invention. The first record of it appears in a paper submitted to the English Society of Arts in 1807, under the title, "A Method of Preserving Fruits Without Sugar for House or Sea Stores," by Mr. Saddington. The method there described is to fill bottles with the fruit, loosely cork, place them in a vessel containing cold water, which should reach their necks, and gradually raise the heat to a temperature between 70 and 77 deg., keeping it there for half an hour. The caution was given not to heat higher or longer, as the fruit would be liable to burst. Lastly,



the bottles were to be filled with boiling water to within an inch of the neck, corked immediately and laid upon their sides in order that the hot water might swell the corks. After covering the corks with cement, the operation was complete.

The credit for the discovery of this process, however, is generally given to M. Appert, who was the first to put it into use on the large scale. In 1810 M. Appert published a book giving directions for this method of food preservation, for which he was awarded the prize of 12,000 francs offered in 1809 by the French government for a process of preserving perishable alimentary substances. Appert's directions were to partially cook the food and put it into strong glass bottles, filling them almost to the top. These bottles were then to be securely corked and exposed for some time to the action of boiling water. To guard against accident, each was to be separately covered with a cloth bag, and the water in which they were plunged was to be gradually heated, starting cold. The boiling temperature was maintained for an hour, and then the fire was drawn and the bath and bottles allowed to cool slowly. Peas and beans were to be put in the bottles in the raw state, and the boiling temperature maintained for about two hours.

The method is, of course, founded on the same principle as the bacteriological operation of sterilizing. None of the common bacteria can survive the action of boiling water for more than a few minutes, and, although their spores are more resistant, even these will not usually survive more than half an hour. Moreover, few of the common putrefactive bacteria are spore-producing. The bactericidal action of heat in the canning process is much facilitated by the fact that in most cases the liquids surrounding the canned foods are weakly acid. Bacteria are much more susceptible to heat in an acid liquid than in one which is neutral or alkaline.

For many years the fact of the preservation of foods treated by this process was ascribed solely to the fact that all air is expelled from the can during the process of canning, it being supposed that air was absolutely necessary for the putrefactive process, or at least was necessary to initiate it. This is, of course, not so. Some of the common bacteria causing putrefaction are absolutely anaërobic, and the presence of air is fatal or detrimental to them, so that they flourish in the interior of decaying masses, but are not found on the surface; to others, air is not necessary, though not detrimental, while many again flourish only when it is present. It follows that the mere presence or absence of air in the interior of the can is a matter of no importance in itself. Tyndall demonstrated the fact that air played no important part in putrefaction, save as a carrier of living organisms. Boiled infusions of a great many of the common food materials were subjected by him to the action of air from which solid matter either had been removed or had been rendered inert by heat, and these decoctions did not decay, but remained unchanged for long periods. In this connection he demonstrated the fact that air passed through loosely packed cotton or through a red-hot tube permanently lost its power of infection.

Based on the erroneous idea of the necessity of oxygen to the decomposition of organic materials many processes were proposed in the last half of the century for the preservation of food by exclusion of air. In 1810 Augustus de Heine proposed to exhaust the vessel containing food by means of an air pump, but the process did not answer. In 1828 Donald Currie proposed an improvement, which consisted in allowing carbonic acid gas to

enter after the extraction of the air. Later, Leig-nette (1836), Bevan (1842), Rettie (1846), proposed other improvements, but none of these were successful. Jones and Trevithick devised an improvement which consisted in admitting pure nitrogen after exhausting the air, once more exhausting, and finally admitting a mixture of nitrogen and sulphurous acid. This process was quite successful, but the preservation of the food was quite evidently due to the antiseptic action of the sulphurous acid and not to the exclusion of air. At present this method has merely a historical interest.

Since the days of Saddington and Appert, preservation of food by their process has become one of the world's great industries. Canneries dot every country of the earth and their product is found on every table. All manner of food is canned, and that at prices which place it within the reach of the humblest pockets. Preserved food has been a great democratic factor, and has nearly obliterated one of the old lines of demarcation between the poor and the wealthy. Vegetables out of season are no longer a luxury of the rich. The logger may to-day have a greater variety of food than could Queen Elizabeth have enjoyed with all the resources and wealth of England at her command. In the American grocery—pineapples from Singapore, salmon from British Columbia, fruit from California, peas from France, okra from Louisiana, sweet corn from New York, string beans from Scotland, mutton from Australia, sardines from Italy, stand side by side on the shelves.

In the United States the canning trade has kept full pace with the wonderful development of the country. Its extent may be judged by taking the statistics for one single product—green corn. In 1892 the pack reached the enormous total of 88,700,000 cans.

Yet great as is the industry it has attracted little attention from those charged to guard the welfare of the people against either the skill or the carelessness of the food adulterator. Abroad a little scattered work has been done on canned foods, though nothing systematic, and rich as is the literature relating to food adulterations, singularly little of it has to do with the examination of these goods.

In this country little attention has been paid to the matter. Massachusetts, working under an efficient food and drug law, has done some work toward preventing the sale of sophisticated imported canned foods, but as far as the records show has done little or nothing with American goods.

The Brooklyn Board of Health for some years has been devoting more or less attention to canned foods, and in particular to those which are coppered.

Canned vegetables are not much subject to adulteration in the restricted sense of the word, which implies the addition of foreign substances to food for the purpose of increasing its quality. The only practice in vogue which can properly come under this head is the addition of undue amounts of water during the canning process. This often occurs. Additions of salt might be regarded in this way, but this substance is added primarily as a condiment. Of adulteration in the more modern sense, that which includes sophistication, there is a great deal, and indeed it may be said to be almost universal. There are few canners who do not use salicylic acid or other preservatives, and the trade in coppered vegetables has grown to enormous proportions. Besides these wilful additions there is a class of what may be called unintentional sophistications, such as the presence of lead, tin, or zinc in these

foods. These substances are often present, but are never, except occasionally in the case of zinc, added intentionally.

Ptomaines are often said to be present in canned foods, and this may sometimes be the case, but their occurrence in canned vegetables must be extremely rare. Ptomaines are by definition the result of bacterial action, and where this action does not occur they must of necessity be absent. Vegetables are usually canned in the fresh state, and if they are in any degree spoiled at the time, the fact is usually conspicuously evident to the taste, so that the canner can not afford to use them. Bacterial action seldom occurs in the can without bursting it or rendering it unsalable. Ptomaines may, however, develop where the canned food is allowed to stand for some time after opening, though even then this is unlikely in the case of preserved vegetables.

It may be said therefor, that the principal risks to health which may arise from the use of canned goods are those due to the use of preservatives, or to the presence of the heavy metals, copper, tin, lead, and zinc. Iron, though often taken up by the food in considerable quantities from badly tinned cans, may be disregarded in this case, since it is not only a normal constituent of food, though hardly in the forms which it assumes in canned goods, but is not poisonous. Its desirability as an addition to food may be questionable, but it can not be called materially deleterious. In regard to the other substances mentioned, the case is different.

Lead is extremely poisonous, and tin is also poisonous, though in a much less degree. As to the preservatives in common use, of which salicylic acid may be taken as a type, and the salts of copper and zinc, their toxic action is not yet definitely known. This much is certain, however, that they have a marked physiological action and are all of them more or less potent medically. In large quantities they create very evident symptoms of poisoning, though this is usually only temporary. In the quantities in which they are liable to occur in canned foods, their action is at the best uncertain. They may be innocuous—they may not be. Much evidence can be collected to prove either side of the question. It is a question which science is not yet prepared to settle. Pending that settlement, however, it may be said that their use is to be reprobated, inasmuch as any benefit which may be derived by the canner from their presence he can secure in other and less dubious ways. At the very least any food which contains them should be clearly and distinctly labeled, with the fact expressed in direct language. Where this is not done, their presence should be considered to be an adulteration and punished as such.

If there is any fact which is clearer than another, it is that no man or set of men has any right to administer surreptitiously to any other man a more or less potent drug. Every man has a right to knowledge of the fact of being drugged, unless he expressly waives this right in favor of a physician. Even here the law steps in and prescribes that this physician shall be a member of a recognized school. This the canners seldom are. Salicylic acid, which may be taken as a type of these additions, for instance, is a valued medicine in many cases, is in fact one of the best known remedies for rheumatism, and is believed never to have caused death in any dose. There are several cases on record of death supposed to have been due to this substance, notably the one reported in the *Virginia Medical Monthly* June, 1877, where death followed the taking of 3 grams, divided into several doses, within a



period of forty hours after the first dose. All these cases, however, are at the best doubtful, for in most instances the patient has had enough the matter with him to have killed him anyhow. But this is no justification for its use. It is certain that it disturbs the normal course of the bodily functions—it must of necessity do so to have medical value—and this fact is alone enough to demand its exclusion from any food intended for general use, unless the food be so labeled.

There is another thing which may be said on this point. Were it as harmless as distilled water, there would be no excuse for its addition to food without notification to the consumer. Salicylic acid is not a normal constituent of any common food, and its addition to such foods for any purpose and in any quantity, without due notice to the consumer, is plainly adulteration. If any man desires to have salicylic acid in his food there is no doubt of his right to have it, since it is not a sufficiently violent poison to warrant the Government's forbidding him. But there is also no doubt of the fact that the canner has no right to admit it surreptitiously. In any case there can be no possible harm result from labeling.

The same arguments may be repeated almost word for word in the case of copper.

Lead, tin and zinc are not usually added intentionally, but are often present, and can not be otherwise described than as dangerous to health. Zinc is sometimes used as a substitute for copper in greening peas, but it comes into canned goods accidentally as a rule. Lead comes from the lavish use of solder rich in lead and from the use of low grades of tin plate. As to its dangerous nature there can be no question. Tin in many instances is almost unavoidably a constituent of canned goods where the common unvarnished cans are used. There are few samples of these goods in which it can not be detected.

#### SCOPE OF THE INVESTIGATION.

The directions given by the Chief Chemist for carrying out the work on canned vegetables provided that analyses be made of the commonly occurring brands in order to establish their nutritive value and that preservatives, metallic contaminations, and other foreign substances, be searched for. Furthermore, directions were given to examine a few of the tin cans to ascertain the quality of tin plate and solder in common use. In accordance with these instructions crude fiber, albuminoids, digestible albuminoids, ash, salt, fat, and carbohydrates were determined in each sample. The preservatives looked for were boric acid, salicylic acid, benzoic acid, sulphurous acid, saccharin, and hydronaphthol. In working upon metallic contaminations, copper, lead, tin, and zinc were searched for, and determined in many instances.

#### METHODS FOR PROXIMATE ANALYSIS—GENERAL EXAMINATION.

The full can was weighed, opened, the juice poured off, and the can reweighed. The can was then completely emptied and once more weighed. The difference between the first and last weighings gave the total contents of the can; that between the second and third the solid contents, together with what moisture adhered thereto. The further details of the methods of analysis not being of general interest are omitted.

#### PRESERVATIVES.

The use of preservatives is becoming quite common in the canneries. Some goods, corn for instance, are rather difficult to sterilize by short periods of heating, and with others heat exercises an influence upon the flavor or consistency, so that the addition of an antiseptic materially facilitates the canner's work.

If a can of food is heated to a temperature sufficient to kill all growing bacteria, the presence of an extremely small amount of a germicide like salicylic acid suffices to restrain all further fermentation, although the amount of antiseptic added might not have been sufficient to materially affect bacterial life if added to a solution in an active state of decomposition. Most of the bacteria commonly found will not resist a temperature of 65 deg. to 70 deg. when in the active state in a fermenting liquid, but these bacteria in the condition in which they are found in dust or when in the shape of spores resist this heat pretty well. If, however, the liquid in which these desiccated bacteria or spores occur contains a minimal amount of salicylic acid or other antiseptic, development into the vegetating form does not occur. Now, in exposing a can of food to the action of heat, no matter how conveyed, it is always a matter of difficulty to insure that the central portion of the contents of the can shall receive as much heat as the portions lying next the surface, and this is particularly true of solid packed goods, such as corn and baked beans. It can be done in time, of course, but time is expensive. Dosing a food with a cheap antiseptic saves time and trouble and enables the canner to be quite certain of the keeping qualities of his goods no matter in how slovenly or sloppy a manner his work may have been conducted. For this reason antiseptics are daily growing in favor among the preservers.

One objection to the use of chemical preservatives arises from the fact that they do not confine their anti-fermentative action to the food in the can, but continue to exercise it after the food reaches the stomach, which is not desirable. Digestion is effected by the action of unorganized ferments to a large extent, and on this action most antiseptics have a greater or less restraint.

It is difficult to say how far the use of preservatives cheapens canned goods. Of course all saving of labor or time tends to lessen the cost of production, but there seems to be no material difference in point of cost to the consumer between those brands of canned goods which contain antiseptics and those which do not. Probably were the use of preservatives discontinued there would be no material change in the retail price.

In the work done on the canned vegetables but two preservatives were found, if salt be disregarded, viz., salicylic and sulphurous acids. Salt is supposed to be added primarily as a condiment and only secondarily as an antiseptic. It was present, however, in some cases in inordinate quantities. In one case (No. 10923) it constituted 40 per cent of the dry matter. Salicylic acid was found in 47 per cent of the total samples examined. Sulphurous acid was also very common.

#### SULPHUROUS ACID.

This preservative, in the form of the fumes from burning sulphur, has been used from time immemorial as a general disinfectant and antiseptic. It exercises a bleaching as well as an anti-putrefactive action, and it is therefore greatly favored by corn canners.

Sulphurous acid, although not a normal constituent of food, is probably not directly harmful in itself. Its use, however, for foods put up in tin cans is to be deprecated for the reason that it attacks the tin and brings it into solution.

#### SALICYLIC ACID.

Salicylic acid was discovered in 1838, by Piria. He prepared it by oxidizing the oil of *Spiraea ulmaria*. In 1843 Proctor discovered it in oil of wintergreen, and Cahours prepared it from this source in 1844. In 1852 it was synthetically made

by Gerland. In 1860 Kolbe and Lautemann discovered a process for preparing it from carbolic acid, and in 1874 Kolbe so improved the method as to render the acid commercially available. It is from this time that the use of the acid as a food preservative may be dated. Shortly after discovering his improved method for its preparation, Kolbe made an extensive study of the antifermentative action of salicylic acid which extended over the space of a year or two. He came to the conclusion that the acid restrained or prevented the action of organized ferments, and likewise that of unorganized ferments, to some extent, but that it was harmless to animal life. In the course of one series of experiments he took a daily dose of salicylic acid for over a year, commencing with half a gram and gradually increasing it to 1½ grams daily. He reports his health to have been the same as usual during this experiment. He also administered the acid to others, and reports the same result. He strongly advocated its use as a food preservative.

Since that time the use of salicylic acid for this purpose has steadily increased, and there are probably now few canners who do not at least occasionally use it. The aggregate of the amount used yearly by the canners and sold for home use in the form of fruit preservatives must be very large. Most of the secret preservatives sold by the druggist and others owe their activity to its presence.

The use of salicylic acid as a food preservative has been forbidden by several European governments. France prohibited it in 1881, and renewed the prohibition in 1883.

An exhaustive discussion of the propriety of the use of salicylic acid as a food preservative took place at the Nuremberg meeting of the Freie Vereinigung der bayerischen Vertreter der angewandten Chemie, August 7 and 8, 1885. The association refused, by a practically unanimous vote, to sanction the addition of salicylic acid to beer. A special committee of the Paris Academy of Medicine reported on this subject, that, while persons in good health might suffer no injury from the ingestion of such small amounts of salicylic acid as are liable to be contained in food, this did not necessarily hold good for the aged or for those in feeble health. Persons suffering from dyspepsia or diseased kidneys it was found were especially sensitive to the action of this substance. The report closed with a recommendation that the addition to food of salicylic acid or its salts, even in small amounts, be absolutely prohibited.

Regarding the physiological effects of salicylic acid, the testimony is conflicting. There is a dearth of reliable experiments upon the human subject. As already mentioned, however, Kolbe took daily doses for the period of a year without injurious effect. Lehmann administered to each of two Munich laborers half a gram of salicylic acid daily for seventy-five and ninety-one days respectively, without a trace of injurious effect. These amounts are much larger than would ever be found in food. Administration of doses of salicylic acid, ranging between 6 and 12 grams, soon causes symptoms of cerebral poisoning. Four grams of sodium salicylate have been known to cause exceptionally severe toxic symptoms. The minimum dose for salicylic acid as given by the dispensatory is, on the authority of Ewald, 5 grams, repeated in five hours when necessary in cases where its antipyretic action is sought. Salicylic acid is one of the best known remedies for rheumatism in all cases where it is not directly indicated by renal affections. As to its influence on digestion, information is lacking. It is certainly not beneficial, however.



Its detection in food is fairly easy. It gives two very characteristic reactions. With ferric chlorid in nearly neutral solution it gives a deep-purple color, and treated so as to produce its methyl ester, a highly characteristic odor of wintergreen. It can be separated from food in a fairly pure state by acidulating the sample, extracting with ether, and distilling the extract in a current of steam.

Regarding the propriety of the use of salicylic acid by the canners, it may be said, as before remarked, that this use should be unhesitatingly condemned in cases where the fact is not indicated on the label of the goods. Salicylic acid may be harmless in very small doses to 99 out of 100 customers, but the interests of the hundredth man should be guarded. Moreover, there is no safeguard against the use of inordinate quantities for while the qualitative detection of salicylic acid is very easy, the quantitative estimation is a matter of very considerable difficulty. For this reason the canner who uses any at all may use almost any quantity he pleases with perfect impunity. Moderately large doses of salicylic acid are quite likely to prove detrimental to many people.

The whole salicylic acid question was quite thoroughly gone into in a previous part of this bulletin.

#### SACCHARIN.

Saccharin was not found in any sample of canned goods. It is an article of too recent introduction to have found its way into many canneries. A sample of clear liquid in a bottle labeled "Superior Sweetener, Alex. Fries & Bros., 92 Reade street, New York," was sent in by Mr. H. E. Taylor of 152 Clifton place, Brooklyn, N. Y. The accompanying letter stated that this sweetener was used largely in the canneries of this country as an addition to canned corn, and was claimed by Fries & Bros. to be a good antiseptic, but perfectly harmless. On examination it proved to be a 12.8 per cent solution of saccharin.

As to the physiological action of saccharin little definite is known, although there is already a large literature pertaining to the subject. It seems probable, however, that in most cases it is not particularly deleterious to the human system.

#### BENZOIC ACID.

Benzoic acid was not found in any instance. The methods for its detection, however, are far too imperfect to allow the conclusion to be drawn that it is never used to preserve vegetable foods.

#### HYDRONAPHTHOL.

"Hydronaphthol," or beta-naphthol, was not found in any sample.

#### BORIC ACID.

Neither boric acid nor borax was found in any sample. Both flame test and turmeric test were used. It is not probable that either antiseptic is used for canned vegetables.

[To be continued.]

## NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

Q.—Does the microphone reproduce the sound of the footsteps of a fly as a deafening roar?

A.—It does not as a roar, but it does make the sound perceptible.

Q.—Is salicylic acid injurious to health?

A.—A difficult question to answer in the abstract. We refer you to our article on canned vegetables.

Q.—Are there different qualities of table salt?

A.—Undoubtedly. Some brands of table salt are being advertised which are absolutely adulterated and injurious to health. We are now getting up an article on the subject.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### MUSHROOM SOUP.

Take a good quantity of mushrooms, cut off the earthy end, and pick and wash them. Stew them with some butter, pepper and salt in a little good stock until tender; then take them out and chop quite small; prepare a good stock as in any other soup, and add to it the mushrooms and the liquor they have been stewed in. Boil all together and serve. If white soup be desired, use the white button mushrooms and a good veal stock, adding a spoonful of cream.

#### PATE DE VEAU.

Three pounds veal cutlets chopped with a large piece of salt pork, two eggs broken in chopped meat, six crackers rolled, piece of butter the size of an egg rubbed in, one teaspoonful salt, one saltspoonful cayenne pepper and sweet herbs to taste. Make into a loaf. Smooth over the top with melted butter. Bake two hours in a moderate oven. Serve cold, cut in slices.

#### SPANISH TOAST.

Cut stale bread in thick pieces, dip in egg with milk prepared like custard, but without sweetening or flavoring. When the slices are well saturated, fry in a very little butter. Serve immediately with wine sauce.

#### CHOUX-FLEUR A FRITE.

Boil a small head of cauliflower in two quarts boiling water well salted, until tender; when cold dip in batter and fry a deep yellow in plenty of hot lard; sprinkle with salt. Serve on a folded napkin. The batter is made as follows: Sift one cup of flour, half a teaspoonful baking powder, and a pinch of salt together; add two eggs well beaten, one cup of milk and one tablespoonful of sweet oil.

#### PARSLEY SAUCE.

Wash the parsley carefully, boil in salt and water five minutes; cut in small pieces. Mix two tablespoonfuls parsley to half a pint melted butter.

#### ROAST CALF'S LIVER.

Wash thoroughly and wipe dry, cut a long deep hole in the side, stuff with bread crumbs, a little bacon, onion chopped very fine, salt, pepper, bits of butter, and one well-beaten egg. Sew or tie together. Lard it over, and bake. Serve with gravy and currant jelly.

#### FRUIT PUDDING.

One cup suet, chopped, three cups bread crumbs grated, one cup raisins, one cup currants, three-quarters of a cup citron, one cup molasses, two eggs. Mix all together. Put in a pan or mould, and steam three hours.

#### SUNDERLAND PUDDING.

Three eggs to a pint sweet milk, pinch of salt,

six tablespoonfuls flour. Mix flour thoroughly in part of the milk; then add the eggs, which have been well beaten. Bake half an hour in a quick oven. Butter the pan well. Serve with sauce.

#### BEDOT PUDDING.

Let a small loaf of baker's bread lie in cold water until wet through, then press out water with the hands. Add half-pint of molasses, one teacupful chopped suet, one cup stoned raisins—chopped—one teaspoonful cinnamon, half-teaspoonful cloves, half a nutmeg grated. Bake one hour. When half baked, put a plate over the top.

#### MARbled CHOCOLATE CAKE.

One half cup butter and one half cup sugar beaten to a cream, one half cup sweet milk, one and one-half cups flour, one teaspoonful baking powder, whites of four eggs added last. Take one cup of this mixture, and add to it five tablespoonfuls grated chocolate wet with milk, and flavor with vanilla. Put a layer of white batter in cake pan, drop the chocolate batter with a spoon in spots; pour over the remaining white batter, and bake. Ice with chocolate icing.

#### CHOCOLATE CARAMELS.

One and a half cups grated chocolate, four cups brown sugar, one and a half cups cold water, piece of butter size of an egg, two tablespoonfuls vinegar. Boil mixture over a brisk fire until it becomes brittle on immersion in water. Do not stir, but shake the vessel while the mixture is boiling. A dash of lemon or vanilla gives a dainty flavor.

#### COCOANUT CONES.

Half cup powdered sugar, white of an egg, one cocoanut, grated. Mix without beating egg, make into small cones and bake until the tops are brown.

## OYSTERS AS FOOD.

A large number of persons continue to use oysters for food during the entire year without regard to the months in which the letter "r" occurs. There are also a considerably larger number who believe that the luscious bivalve is more palatable, more nutritious and more digestible during the months from September first to the following May. And there are some reasons for such belief. The oyster, like other members of the animate world, finds within its reach a larger amount of its special food during the warmer season of the year, and thereby acquires more rapidly and in a larger measure the admirable qualities which so commend it to the human stomach. Speaking roughly, a quart of oysters contains, on the average, about the same quantity of actual nutritive substance as a quart of milk, or a pound of very lean beef, or a pound and a half of fresh codfish, or two-thirds of a pound of bread. But while the weight of actual nutriment in the different quantities of food material named is very nearly the same, the quality is widely different. That of the very lean meat or codfish consists mostly of what are called in chemical language, protein compounds, or "flesh formers"—the substances which make blood, muscle, tendon, bone, brain, and other nitrogenous tissues. That of the bread contains but little of these, and consists chiefly of starch, with a little fat and other compounds, which serve the body as fuel, and supply it with heat and muscular power. The nutritive substance of oysters contains considerable of both the flesh-forming and the more especially heat and force-giving ingredients. Oysters come nearer to milk than



almost any other common food; their values for supplying the body with material to build up its parts, repair its wastes, and furnish it with heat and energy would be pretty nearly the same.—*R. I. Monthly Bulletin.*

### CORN BREAD.

#### ANALYSIS VS. EXPERIENCE.

Notwithstanding the recent culinary efforts of a patriotic American to educate the German up to an appreciation of the savory and nutritious properties of Indian meal, Dr. Eugene Sell, of the Imperial Health Department, has reported to the Prussian government that this substance is not a wholesome article of diet, and is unsuited for general consumption. The *Medical Record* thinks if Dr. Sell could but examine some of our stalwart mountaineers in West Virginia and Kentucky, and see how they thrive on hog and hominy, he might be led to distrust the accuracy of his laboratory experiments.

UNFERMENTED SPARKLING WINE—B. Henderson of Aberdeen, N. B., has recently patented a method of making unfermented wine from raisins, etc., which presents the following essential features: About 84 lbs. each of bruised Muscatel and Valencia raisins, the rinds of twenty-eight lemons, and 24 lbs. of ginger are extracted with five to six gallons of spirits of wine 10 overproof. After draining off the spirituous extract the residue is extracted with water containing 2 ounces of salicylic acid; the aqueous extract is then boiled with  $3\frac{1}{2}$  cwt. of cane sugar, and lemon juice to taste. When cool the spirituous extract previously prepared is added to it, together with about 12 oz. of caramel for coloring purposes. The whole is then diluted with boiled water until the gravity is reduced to 45 deg. F., and clarified either by subsidence or with finings.

To make an unfermented sparkling wine, 4 oz. of the extract are taken for each reputed quart bottle, and then the latter is filled up with water and the mixture carbonated in the usual manner.—*M. W. Trade Review.*

TOMATO SQUASH A NEW DRINK.—One of my friends was formerly a "two-bottle man," and for a year or so past suffered the most exquisite torture from gout. He says he is now free from all pain, and can dance a waltz as nimble as a youth of twenty. The secret is his sole beverage—tea and coffee excepted. He drinks "tomato squash." It was originally prescribed for him by a continental Esculapius, and is thus made: Squeeze the entire juice of a couple of fully ripe tomatoes into a large glass, and then fill up with seltzer water. It is not altogether bad to imbibe, so my readers might turn this hint to profitable use.—*The Caterer.*

The American Consul at Berlin invites attention to the fact that the imperial German health authorities have discovered that the refuse left after the oil has been extracted from peanuts contains 50 per cent of albumen. This discovery, which may prove of interest to the peanut industry of the United States, was made during some recent experiments which were being conducted by the imperial German health authorities, with a view to ascertain whether a healthy bread could not be made of a mixture of rye flour and peanuts in some form.

WAS HE ALIVE?—"Yes, typhoid fever is a terrible disease. It either kills the patient or leaves him a complete idiot. I have had it and know what I am talking about."

## MEDICAL.

### COBWEBS AND TETANUS.

Tourassi and Frateni think that cobwebs are a frequent cause of tetanus, and give the following as the result of their investigations:

1. That the germs of tetanus exist in large numbers in certain soils, and are met with in cobwebs, along with the dust.
2. That even if these cobwebs do not contain tetanus germs, they do contain other pathological germs.
3. The employment in medicine of cobwebs as hemostatic agents should be prohibited, in view of the risks incurred.—*La Gazette Medicale.*

### PEACH FEVER.

"Peach fever," an occupational disease, not infrequently seen among the employes in the fruit packing and canning establishments of Maryland and Delaware, is the subject of a paper by Dr. C. L. Anderson, of Hagerstown, Md., in a recent number of the *Maryland Medical Journal*. Dr. Anderson divides the cases into two varieties: First, the psychotic variety, marked by mental exaltation, ideas of grandeur, seen in persons having a lively imaginative faculty; second, the true peach fever, caused by contact with the fruit in the course of its being picked and packed for market. This variety is defined as "a morbid condition of the respiratory and cutaneous surfaces, with some consequent systematic disturbances, due to irritation from the pubescence of the skin of the common peach—the *Amygdalus persica*." The Schneiderian membrane first becomes irritated and tumefied, and yields a large flow of serum and mucus. The frontal sinuses, the conjunctivæ, and the larger bronchi may take on, by extension, the same kind of disturbance; cough and asthma may be excited in susceptible subjects. On the skin, the chief display of this amygdaline inflammation will be found about the wrist\*, forearms, neck and forehead. It commonly begins and ends in a macular or papular eruption, but it may go on to a true dermatitis and to pustulation. The febrile rise may be as high as two degrees, which may be taken to indicate the amount of systematic discomfort induced by the respiratory and cutaneous irritation. Thin-skinned and neurotic young women suffer more and longer than the pachydermatous men and the older women. The more experienced workers seem to become proof against the irritant after some years in the business. There is no evidence to show that the disease is contagious.

### PORK PIE POISONING.

The recent extensive outbreak of poisoning in Camberwell has revealed a little suspected danger that may lurk in the pork pie *et hoc genus omne*. The outbreak was peculiar in two respects. The symptoms did not come on till after a lapse of from twenty-four to thirty-six hours, and those who scarcely tasted the pies suffered almost as severely as those who indulged freely. One woman, indeed, who had taken none, was attacked; but it was found that she had used a knife with which a pie had been divided.

In ordinary ptomaine poisoning the symptoms come on almost immediately, and their severity is, of course, directly proportionate to the amount of food taken. Here neither of those conditions was fulfilled, and the facts permit of but one interpretation. The pies were, so to speak, only

potentially poisonous. They did not contain an actual chemical poison, but they did contain living bacteria, capable of growing in the body, and of producing deadly toxins therein. The period that elapsed before the onset of the symptoms, was, no doubt, the incubation period of the bacteria, and with the enormous power of reproduction possessed by these organisms it mattered little whether many or few were introduced.

The pies, it is said, were made in Leicester on Thursday, and sold either on the following day or on Saturday, and no complaint was made by any of those who partook of them that they were otherwise than perfectly fresh and good. This is exactly what we should expect for there is no presumption that the meat of which they were made was bad. Indeed, the contamination must have taken place after they left the baker's oven. The ptomaines of decomposed meat may pass through the baking process without change; but it is hardly possible to suppose that living bacteria could survive such an ordeal.

This, then, is a matter entirely different from the ordinary ptomaine poisoning due to the use of bad meat, and it raises a question of considerable interest. The pork pie, be it ever so good and fresh, forms a most admirable culture medium for microbes, and when we think of the late revelations concerning the disgraceful sanitary condition of our bake houses, we cannot but wonder that outbreaks like that at Camberwell do not occur more frequently. Short of actual poisoning, however, we suspect that the question is one of no little practical importance to the public, that cooked meats are pretty often contaminated with bacteria, and that a large proportion of sick-headaches, summer diarrhoea, and the like are to be accounted for in this way.—*Chem. and Drug.*

### CHOLERA A NITRITE POISONING.

Emmerich and Tsuboi, according to publications in the *Munchener med. Wochenschrift*, come to the conclusion that cholera is a nitrite poisoning, basing their conclusions upon the facts that the cholera bacillus is able to a greater extent than any other bacillus to reduce nitrates to nitrites, and the internal administration of nitrites in quantity of 0.5–0.6 gm. is capable of producing very similar physiological effects in man. While other varieties of bacteria are capable of forming nitrites, none of these thrive in the intestines.—*Apotheker Ztg.*, 1893, 322; *Amer. Jour. Pharm.*

### THE DOCTOR.

"Our physicians," says a writer in the *Christian Herald*, "have so many hardships, so many interruptions, so many annoyances, I am glad they have so many encouragements. All doors open to them. They are welcome to mansion and to cot. Little children shout when they see them coming down the road, and the aged, recognizing the step, look up and say, 'Doctor, is that you?' They stand between our families and the grave, fighting back the troops of disorder that come up from their encampment by the cold river. No one hears such thanks as the doctor hears. They are eyes to the blind, they are feet to the lame, their path is strewn with the benedictions of those whom they have befriended. One day there was a dreadful foreboding in our house. All hope was gone. The doctor came four times that day. The children put away their toys and all walked on tiptoe, and at the least sound said 'Hush!' How loudly the clock



did tick, and how the bannister creaked though we tried to keep it still! That night the doctor stayed all night. He concentrated all his skill upon the sufferer. At last the restlessness of the sufferer subsided in a calm, sweet slumber, and the doctor looked up and smiled, and said: "The crisis is passed." When propped up with pillows, in the easy chair she sat, and the south wind tried to blow a rose-leaf into the faded cheek, and the children brought flowers—the one a red clover top, the other a violet from the lawn—to the lap of the convalescent, and Bertha stood on a high chair with a brush smoothing her mother's hair, and we were told in a day or two she might ride out, joy came back to our house.

"And as we helped the old country doctor into his gig, we noticed not that the step was broken, or the horse stiff in the knees, and we all realized for the first time in our life what doctors were worth. Encourage them. They deserve every kindness at our hands."

### THE CROOK OF THE CYCLE.

The wide diffusion of the bicycle as a means of locomotion, and as well as an agent of pleasant pastime, has introduced into orthopedic surgery a new factor in the production of spinal curvature. When the wheel came into use, the handles were long and the rider sat upright. The followers of Father Jahn encouraged it, and well-informed physicians saw in it a new instrument of physical culture.

The desire for increased speed and record breaking lessened the diameter of the wheel and shortened the handles, so that now you may see on any fine day whole troops of cyclists spining along with their backs arched over the lever, and as the victim must see where he is going, he raises his chin, and the back of his head approaches the shoulder blades. Thus a double antero-posterior curvature has its foundation laid; constant humping the back could do no less.

It is not intended to convey the idea that cycling should be abolished; on the contrary, it should be encouraged, but cycles should be so constructed that the rider may sit upright like a man, and not double up like a hunchback or professional contortionist. In the latest patterns of bicycles we see wherein true scientific physical culture has been made to give way to the demands of the professionals. The amateur should be encouraged, for he rides for health and pleasure, while the professional rides for the money he can win by it. It was professionalism that ruined the Greek gymnasia, and professionalism has now converted a healthful and innocent amusement into a dangerous diversion.—*The Journal*.

**REMOVAL OF WRINKLES.**—Quite a sensation has recently been made in Boston by the successful application of wool-fat, or agnine, to the skin, for the removal of wrinkles. When applied with rubbing, it passes directly through the skin and acts as a nutrient to the fatty tissues beneath. An ancient dame has succeeded in removing nearly all the crow-feet around her temple, and the remedy is fast becoming very popular.—*Med. and Surg. Reporter*.

"Doctor," said little Emily, "do you know that a baby that was fed on elephant's milk gained twenty pounds in one week?"

"Nonsense!" exclaimed the doctor; and then said, "Whose baby was it?"

"It was the elephant's baby," replied little Emily.

**LIVER COMPLAINT BY MUSIC.**—Under the shade of a spreading maple tree on a Bartlett street lawn in Lewiston a group of children were keeping cool and keeping school at the same time.

The lady of the house missed her scissors, and she walked out to find them. Before reaching the children she stopped, unobserved by them, to hear their mental processes.

It was "first class in singing," and their singing books were a package of patent medicine books thrown in at the doors. One of them forthwith piped out and sang about typhoid fevers.

"Symptoms," she caroled, "a pain in the ba-a-k and a sense of wea-ri-ness. All-gone feeling at the pit of the stomach. Ta-a-ke frequent do-o-ses of Jones' liver rem-e-dy and you will be relieved of all da-a-n-ger of typhoid."

"Mary," said the school-teacher, "you may read about 'consumption,'" and Mary stood beneath the gently lifting branches of the trees and read a thrilling story of how Ezekiel Chandler, of Rochester, N. Y., was cured in six days by the golden discovery.

"Now Edith," to the little flaxen-haired cherub, "you may sing about cholera morbus and bowel trouble."

That settled it. The lady had to lean up against a tree to laugh, and it broke up the school for ten minutes.—*Lewiston Evening Journal*.

## HYGIENIC.

### GO TO, THOU BALDHEAD!

*Alopecia Areata* seems like a big Latin definition of a disease which consists essentially in one or more limited areas of baldness, confined to the scalp or bearded face. These areas are generally roundish or ovalish in shape, occasionally being linear or assuming various other shapes of greater or less irregularity. The loss of hair is quite sudden and seemingly takes place in a few hours. The area affected is completely denuded of hair, as if such had never existed at that spot. The number of affected spots may be limited to one or may be numerous. It is not uncommon for the process to extend from one spot to another, thus giving rise to extensive bald areas, which lend a rather unsightly appearance. The denuded area varies in appearance according to the variety of the trouble. In the non-parasitic form the skin has a white, glistening appearance which is very suggestive of ivory. The hairs at the periphery are to all appearances normal both in length and color, and there is no suggestive symptom connected with the disease. In the parasitic variety, on the other hand, it will be found, upon close examination, that the denuded area is covered with exceedingly fine scales, and here and there the stumps of broken-off hairs exist. Furthermore, at the periphery, there are broken, more or less lusterless hairs, indicating the parasitic nature of the disease. If we follow the natural evolution of the disease, another difference will be noticed in the course of these two varieties. In the non-parasitic the tendency is to spontaneous recovery. After a greater or less interval of time hairs begin to grow over the denuded area, these being frequently of a white color. After attaining a certain growth they are shed and followed by another crop. This may occur but once, or several times, and finally a permanent growth makes its appearance. In the parasitic form, on the other hand, the tendency is for the bald spots to extend and new ones to show themselves, owing their origin to auto-infection. Not only this, but outsiders are liable

to contract this form, whereas the other always remains limited to the same individual. In both forms the eyebrows and the eyelashes may also be similarly affected as the scalp and beard.

There is no difficulty in assigning an adequate cause for the parasitic variety, and upon this point all authorities are agreed. In the non-parasitic variety, however, there does not seem to exist a consensus of opinion, although there really seems to be but little doubt as to its nervous origin. The cases are sufficiently numerous and well attested in which an accidental or surgical traumatism has produced the trouble. In other cases, very distinct and well defined neurotic disturbances have been made out, and upon their subsidence or disappearance marked improvement began. There are some cases, it is true, in which no possible adequate cause can be clearly established. Be this as it may, the treatment seems to be always successful, although more markedly so in some cases than in others.

The treatment of non-parasitic alopecia areata is both general and local. General nerve tonics should be given, according to the indication of the case. In addition to this, the following powder in water at bedtime will hasten the return of the hair:

Pilocarpini muriat.....3 grains  
Sacchari lactis.....2½ drachms

M. ft chart. No. 30.

Sig. One powder in water at night.

Locally, various methods may be successfully employed. Application of cantharidal collodion once or twice a week to the areas is an excellent measure. Instead of this, pure carbolic acid may be thoroughly applied with the same frequency. In either case a bland dressing should be applied twice daily in the intervals elapsing between the stronger treatments. A salve, such as the following, will be found serviceable:

Zinci oxidizi  
Bismuthi, subnitrat.....of each ½ ounce  
Ung. aquæ rosæ.....1 drachm

In the parasitic variety the hair should be shaved about a half inch around the patch and strong parasiticides applied. Whilst lotions are useful to a certain degree, an ointment like the following, well rubbed in twice daily, will be found very useful and will produce good results:

Hydrarg. bichlorid.....1 grain  
Lanolin. puriss.....1 ounce

When an apparent cure has resulted in either case the following will be found a good stimulating application to use, as it promotes the growth of the hair:

Resorcin.....1 ounce  
Beta Naphthol.....1 scruple  
Tinct. cinchorae co.....3 drachms  
Spirits myrciae.....6 ounces.

Mix. To use as a hairdressing.

**BALD RECRUITS.**—At the last drawing for conscripts at the Seventh Arrondissement of Paris it was noticed that more than fifty of the youths who presented themselves were suffering from scalp-disease. The Prefect of the Seine at once commissioned Dr. Lancereaux to make an inquiry into the subject, and this gentleman's report was read last month at a meeting of the Council of Hygiene, from which it appears that contagious affections of the scalp are very easily propagated by the use of dirty brushes and above all by the use of "clippers" that are employed to cut the hair very close. These "clippers" are so difficult to clean that their use must be attended with risk. He suggests the use of a solution of carbolic acid (5 per cent) as a disinfectant for cleaning brushes and scissors, with a stringent official order to insure proper attention to the matter.



## ADULTERATION.

## ON POISONING FROM CANNED FISH.

BY DR. A. B. GRIFFITHS, F.R.S. EDIN, ETC.

The poisoning ptomaines, formed from albuminoids during the decomposition of food, produce symptoms of poisoning, etc., which are said to be referable to the digestive and nervous systems. These symptoms manifest themselves at periods varying from a few hours to several days after eating food. The symptoms produced by this class of ptomaines are the following, among others: Unpleasant taste in the mouth, headache, vomiting, diarrhoea, salivation, dyspnoea, paralysis and death. Several ptomaines render the heart beats slow and weak, and in some cases of poisoning by unwholesome fish, the symptoms resemble those of poisoning by atropine.

Poisoning by unwholesome foods too frequently escapes notice; nevertheless every analyst or medical man who is careful of his scientific dignity should possess a thorough knowledge of the properties of the ptomaines, which have now quite a literature of their own.

Numerous deaths have occurred in England (see Griffiths in *Chemical News*, vol. lxii, p. 17 and the reports in *Daily Graphic*, November 25; 1892; *Daily News*, November 22, 1892, and April 22, 1893), on the Continent and in America, from eating unwholesome foods; and it has been shown that the poisonous properties of such foods are due to the action of microbes on the proteids contained in the foods. It may be stated that these poisonous properties are due to certain ptomaines or animal alkaloids. The ptomaines are produced during the putrefaction or decomposition of animal substances. By the direct action of microbes, the proteids are disintegrated, with the formation of ptomaines among other products. It will be seen from this remark, that the ptomaines are not secreted or excreted by microbes, for they are the residua after microbial action. To explain the action of microbes, on organic matter generally: Let  $a_3b_4c_5d_8$  represent the composition of the medium in which certain microbes live, and let  $a_2b_2c_2d_1$  represent the food extracted from such a medium by the microbes for their nourishment; it therefore follows that  $a_1b_2c_3d_3$  will represent the residue or the products of the microbial action—be it fermentation, nitrification, the production of ptomaines, etc.

It should also be borne in mind that the idea of ptomaines without microbes is inconsistent with an impartial study of facts. It is true that a suitable filtration (*e. g.* through porous porcelain) will separate a ptomaine from its microbe; but when this microbe is separated from the original liquid and transferred successively to nourishing media, so as to purify it from every foreign element, it continues to produce its characteristic ptomaine (or ptomaines), which is produced at the expense of the culture fluid. There is no true ptomaine without microbes, any more than there is ergotine without *Claviceps purpurea*, vinegar without *Bacterium aceti*, or alcohol without certain species of the *Saccharomycetes*.

Such are our preliminary remarks concerning the ptomaines; we now proceed to describe a new ptomaine which we have extracted, from putrid sardines, by the following process:

The putrid mass was boiled with water, filtered, and the filtrate precipitated with subacetate of lead. This precipitate was filtered off, a current of  $H_2S$  passed through the filtrate, and the plumbeic sulphide separated by filtration. The filtrate was concentrated by evaporation and then ex-

tracted with amylic alcohol. The amylic solution was repeatedly treated with water, then concentrated, acidulated with  $H_2SO_4$ , and repeatedly shaken with ether, which removes the oxy-aromatic acids. Freed from ether, it was evaporated to a quarter of its volume, and thus volatile fatty acids were driven off. The  $H_2SO_4$  was precipitated by baryta, and the precipitate removed by filtration. The excess of baryta was precipitated by a current of  $CO_2$ , and this was also removed by filtration. The fluid was heated for some time on a water bath, cooled and precipitated with  $HgCl_2$ . The precipitate was washed and decomposed by  $H_2S$ ; the mercuric sulphide was filtered off, and the filtrate concentrated. The hydrochloride of the ptomaine was subsequently deposited in the crystalline condition. It was dissolved in water, and then treated with pure calcium hydroxide, which liberated the base. The ptomaine was separated by chloroform, in which it is soluble; and it was finally purified by washing with alcohol and water.

This new ptomaine is a white crystalline substance, soluble in water, and has a slight alkaline reaction. It is precipitated by hydrochloric acid in the form of a white crystalline hydrochloride. Platinic and auric chlorides precipitate this ptomaine, and the resulting platino-chloride and aurochloride are yellow crystalline compounds. This base produces with phosphomolybdic acid, a greenish precipitate, with phosphotungstic acid a yellowish white precipitate, and with picric acid a yellow one. It is also precipitated by silver nitrate and Nessler's reagent. Analyses of this base gave the following results:

0.378 gramme of substance gave 0.9669 gramme of  $CO_2$  and 0.2034 gramme of  $H_2O$ .

0.2213 gramme of substance gave 14.1 c. c. of N.

	Found.		Calculated
	I.	II.	for $B_{11}H_{11}NO_2$
Carbon.....	69.77	—	69.84
Hydrogen.....	5.98	—	5.82
Nitrogen.....	—	7.45	7.40
Oxygen.....	—	—	16.94

The above figures correspond with the formula:



for this new ptomaine.

This base, which has been named sardinine, is poisonous—producing vomiting, diarrhoea, and death; and there is little doubt that it is the cause of the poisoning which results from eating putrid sardines or sardines which have been badly tinned.

It may be useful to give a list of the ptomaines which have been extracted from the products of bacterial putrefaction of certain fishes, etc.:

1. Parvoline,  $C_9H_{13}N$ , from mackerel (Gautier and Etard)
2. Hydrocollidine,  $C_8H_{13}N$ , from mackerel (Gautier and Etard).
3. Scombrine,  $C_{11}H_{18}N_4$ , from mackerel (Gautier and Etard).
4. Muscarine,  $C_5H_{13}NO_2$ , (Brieger).
5. Gadinine,  $C_7H_{16}NO_3$ , from cod (Brieger).
6. Ethylenediamine,  $C_2H_8O_2$ , from cod (Brieger).
7. Mytilotoxine,  $C_7H_{15}NO_2$ , from mussels (Brieger).
8. Sardinine,  $C_{11}H_{11}NO_2$ , from sardines (Griffiths).
9. Collidine,  $C_8H_{11}N$ , from cuttle fish (De Coninck).
10. Coridine,  $C_{10}H_{15}N$ , from cuttle fish (De Coninck).

In addition to "fish poisons" it may be mentioned, *en passant*, that Lewis (*Chemical News*, vol. lxvii, p. 52) believes that the twenty cases of

poisoning in America, which resulted from eating tinned beef (in 1892), were due to neuridine ( $C_5H_{14}N_2$ ); and the poisoning which sometimes results from eating unwholesome cheese, ice cream, etc., has been proved to be due to a ptomaine which is named tyrotoxinon ( $C_8H_8N_2$ ) by Vaughan.

In conclusion, there is no doubt that the ptomaines play an important part in most cases of poisoning from eating unwholesome food, and it is of primary importance that analysts, medical men and others should make themselves thoroughly familiar with the properties of these curious products of putrefaction.

## POISONOUS COSMETICS IN GREAT BRITAIN.

The Pharmaceutical Society of Ireland has recently done an excellent piece of work in prosecuting and convicting Madame Anna Ruppert, the woman who so extensively advertises herself and her "celebrated complexion lotion" in the daily press of this country and Great Britain. The conviction was secured under the "poisons act," which forbids the vending of a certain class of poisons by anyone not a licensed pharmacist or apothecary. Expert evidence, offered by the prosecution, showed that the active ingredients in the lotion is corrosive sublimate, about 8 grains of this substance being found in each bottle of the "skin tonic" that was analyzed. Madame Ruppert was fined \$25 (£5) and costs. As she is liable to a similar fine for every bottle sold by her or her agents, it is not likely that she will hereafter have much of a retail trade for her "skin tonic."

Incidentally, during the trial the cost of the preparation was brought up, and it was shown that a bottle, sold by her for \$2.50, costs just one-half penny, or *one cent*. Viewed in this light, the "skin tonic" may be considered a "skin game" of considerable magnitude.

The daily papers in England all comment on the justice of the conviction, etc., and express their righteous horror of the nefarious practices of Madame Ruppert and her class, yet just alongside of their comments appears the madame's advertisement, and her décolleté and very much be-frizzled portrait.

Of course, Madame Ruppert is neither better nor worse than the thousand other vendors of similar preparations, and in private life is no doubt a very estimable and exemplary person, and her name and preparation are used by us simply as representative of a class.

After all, are not the women who purchase these preparations as much, or more, to blame than the makers of them? No amount of warnings from physicians or the press can prevent them from purchasing and using preparations for "beautifying" themselves, and a secret formula always has a virtue that a known one can never attain in their estimation.—*National Druggist*.

ADULTERATION OF LINSEED OIL.—The extent to which this article is adulterated, or sophisticated, we presume few consumers realize; that the dealers do not all appreciate it, is apparent from the amount of it they buy. We have recently had occasion to analyze some of the boiled oil sold to one of our friends (at a ridiculously low price under the market), and it shows up as follows:

Raw linseed oil.....	70 parts
Turpentine japan.....	6 parts
Neutral petroleum.....	24 parts

This is a fair specimen of the boiled oil sold by a well known oil concern. Other samples examined contain about the same ingredients, with a slight change in the proportions. Neutral oil is worth about fifteen cents per gallon.—*Meyer's Drug*.



### PREHISTORIC IRRIGATION IN ARIZONA.

In the July *Anthropologist*, Mr. F. W. Hodge gives some interesting notes on this subject, from which we take the following:

In none of the extensive archæologic remains of Southern Arizona are the industry, perseverance, and degree of advancement of a large pueblo population more faithfully illustrated than in the many works of irrigation that abound in the valleys and on the mountain slopes of this section.

Judging from the remains of extensive ancient works of irrigation, many of which may still be seen passing through tracts cultivated to-day as well as across densely wooded stretches considerably beyond the present non-irrigated area, it is safe to say that the principal canals constructed and used by the ancient inhabitants of the Salado Valley controlled the irrigation of at least 250,000 acres, even without considering the economical methods employed by a primitive people in all its undertakings.

The mode of canal construction employed by these pueblo builders was another indication of their patience and industry. Their canals are models for the modern farmer to imitate; yet they could have been dug in no conceivable manner save by the laborious process of hand excavation with stone or wooden implements, the earth being borne away by means of blankets, baskets, or rude litters. Notwithstanding this, the outlines of at least 150 miles of ancient main irrigating ditches may be readily traced, some of which meander southward from the river a distance of fourteen miles.

Unlike ordinary irrigation ditches, these were constructed in such a manner as to control to some extent the depth of the current as well as to prevent waste through seepage. The bed of the canal was about four feet wide, but the sides

broadened in their ascent to within about four feet of the bank, where a "bench" three feet in width, on each side of the canal had been made. From these benches the banks continued, broadening until they reached the brinks, which were about thirty feet wide. Thus a main ditch consisted, so to speak, of one watercourse within another; so that if at any time a small current of water only could be supplied at the head-gate, owing, perhaps, to drouth, the lower and narrower ditch was doubtless always filled sufficiently to supply the towns beyond, while during the rainy season the upper and much broader portion of the great canal would readily accommodate all surplus waters.

Several years ago, when the Mormons first settled at Mesa City and began the irrigation and cultivation of the fertile plain about them, they utilized this ancient canal bed for a considerable distance, including that portion encircling the knoll of volcanic tuff mentioned. The writer has been informed by one of the founders of this settlement and builders of the Mesa canal, which is nine miles in length, that the saving to them by using the ancient canal was from \$20,000 to \$25,000.

In tracing the routes once pursued by many of the canals, great depressions—the sites of ancient reservoirs—are observable. The remains of one of these reservoirs, nearly a mile long by about half a mile wide, occur on the open plain at the terminus of one of the main canals that formed the source of water supply of Los Muertos, and about three miles southwest therefrom. It is possible that this great depression was, in part at least, a natural sink, deepened by artificial means to serve more fully the purposes of a storage well of surplus waters from the Los Muertos irrigating system. Every cluster of communal structures in Los Muertos was supplied with a reservoir on a smaller scale than the one just mentioned, a single canal forming both its inlet and outlet. Sometimes a lesser communal dwelling shared with a neighboring structure in the water supply from a single storage basin.

### AUSTRALIAN CONTEMPORARIES OF THE MASTODON.

The greatest discovery of fossil remains ever made in any part of the Southern Hemisphere has just taken place in one of the most barren and forbidding localities in the north-east of South Australia. The animals whose remains are included in this great discovery are principally of the extinct species—the diprotodon, a species of marsupial closely allied to the Australian kangaroo. In most respects, however, the diprotodon, during its terrestrial existence, bore rather a resemblance to the hippopotamus than to any form of life now existent in the antipodes. Some remains of the gigantic bird *dinornis* have also been found. Mr. Brown, the government geologist of South Australia, states that so far as he is aware this is the first occasion on which the bird has been shown to have existed in Australia. No fewer than eighty diprotodons are represented by the bones already unearthed, and it is evident from the close proximity of the localities where the chief collections have been made that the struggle for existence must have been particularly severe at the time when so many creatures of the same species were driven to take refuge in one spot. As to the position in which one of the diprotodons was found, the animal is believed to have died in exactly the same position in which it was discovered, the legs being wide apart, and one being deeply imbedded in the ground. In every direction the presence of fossil bones can be detected, owing to the existence of small patches of travertine limestone on the surface. The discovery was partly due to the curiosity of a bushman, who picked up a huge tooth in the locality some months ago, and on bringing it down to Adelaide was interviewed by a local reporter. The skull of the diprotodon measures, in some specimens, over three feet long, and the length of the animal, when set up, will be fully ten feet. The bones of the tail are so short that it is probable the animal had, in life, no perceptible tail, being, in this respect, remarkably unlike most of the marsupials now existent in Australia.

# TWIN REMEDIES

## BUFFALO LITHIA WATER AND HOT SPRINGS WATER

In Bright's Disease, Uric Acid Diathesis, Gout, Rheumatic Gout, Rheumatism; their value in Calculi.

**Dr. Algernon S. Garnett,** *Surgeon (retired) U. S. Navy, Resident Physician, Hot Springs, Ark.,* says:—"My experience in the use of BUFFALO LITHIA WATER is limited to the treatment of Gout, Rheumatism and that hybrid disease 'Rheumatic Gout' (so-called), which is in contradistinction to the Rheumatoid Arthritis of Garrod.

"I have had excellent results from this Water in these affections, both *in my own person and in the treatment of patients for whom I have prescribed it.* Of course the remedial agent is its contained Alkalies and their solvent properties. "Hence it is a prophylactic as well as a remedy in Nephritic Colic and forming Calculi, when due to a redundancy of Lithic Acid."

**Dr. Wm. B. Towles,** *Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia, former Resident Physician, Hot Springs, Va.,* says:—"I feel no hesitancy whatever in saying that in Gout, Rheumatic Gout, Rheumatism, Stone in the Bladder, and in all Diseases of Uric Acid Diathesis, I know of no remedy at all comparable to BUFFALO LITHIA WATER.

"Its effects are marked by causing a disappearance of the Albumen from the urine. In a single case of Bright's Disease of the Kidneys, *I witnessed decided beneficial results from its use,* and from its action in this case I should have great confidence in it as a remedy in certain stages of this disease."

**The late Dr. Wm. F. Carrington,** *Resident Physician, Hot Springs, Ark., Surgeon (retired) U. S. Navy,* says:—"BUFFALO LITHIA WATER, Spring No. 2, has signally demonstrated its remedial power in Gout, Rheumatic Gout, Rheumatism, Uric Acid Gravel, and other maladies dependent upon the Uric Acid Diathesis.

"It not only *eliminates from the blood the deleterious agent* before it crystallizes, but dissolves it in the form of Calculi, at least to a size that renders its passage along its ureters and urethra comparatively easy. Send twenty cases No. 2."

**Dr. T. B. Buchanan,** *Resident Physician, Hot Springs, Ark.,* says:—"Send me five cases BUFFALO LITHIA WATER, Spring No. 2. I have made use of this Water for Gout in my own person and prescribed it for patients similarly suffering, with the most decided beneficial results. I take great pleasure in advising Gouty patients to these Springs."

Water for Sale by All Druggists. Pamphlets sent to Any Address.

THOMAS F. GOODE, Buffalo Lithia Springs, Virginia.



## OBNOXIOUS MICROBES.

It is of course generally known that calcareous deposits in various organs of the human body give rise to many agonizing diseases, difficult of cure or even remedy. They are found as tubercles in the lungs, chalk deposits in the joints, stone and gravel in the bladder, gallstones in the biliary duct—and so on. Until very lately their cause has not been known to science. Good persons, not afflicted by them, vaguely classed them with the cataclysms of nature as “dispensations of Providence.” Sufferers generally preferred to attribute them to the same source as the old indictments did crimes—“the instigation of the devil.” But the eminent French savant Dr. Galippe after eight years exhaustive investigation and study of them has only recently laid before the French Academy of Science a report, the result of his labors, which throws altogether a new light upon the subject and has evoked intense interest among the scientists of Europe. He declares that “all stones found in the human body contain microbes of a peculiar kind. These microbes are the authors of that chemical decomposition which results in a calcareous deposit. Our organs, even when in a perfectly healthy condition, frequently contain large numbers of such parasites, which however, produce no deleterious effects so long as the humors of the body are in a normal state; but, once we are attacked by disease, the microbian manifestations set to work to produce the deposit which develops into gravel, stone, tubercles, etc.” Dr. Galippe found it practicable to isolate and cultivate these microbes and even, in an experiment lasting five years, caused them to produce in human saliva hundreds of little stones

# Indigestion

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Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

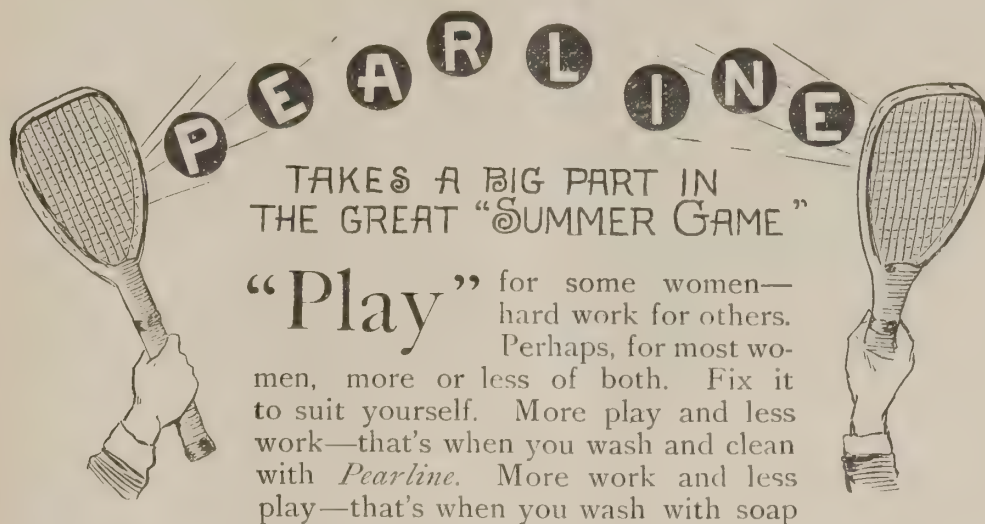
Dr. W. W. Gardner, Springfield, Mass., says: “I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened.”

Descriptive Pamphlet free.

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in the old back-breaking way.

Better work, too, with *Pearline*. Little or none of the rubbing that wears things out. It's something to think about, whether you do your own work, or have it done.

Easier, quicker, better, cheaper—and absolutely safe. Facts about *Pearline* known by millions of women.

**Beware** Peddlers and some unscrupulous grocers will tell you, “this is as good as” or “the same as *Pearline*.” IT'S FALSE—*Pearline* is never peddled, and if your grocer sends you something in place of *Pearline*, do the honest thing—send it back. 305 JAMES PYLE, New York.

absolutely identical in all respects with the stones found in various organs of the human body.

This discovery emphasizes in a startling manner the importance of maintaining in our organs such thoroughly healthful conditions that we shall be absolutely impervious to the attacks of disease. The man who is conscious of being “just a little unwell” or “slightly below par” may by symptomatic treatment effect an apparent and merely temporary cure of the immediate ailment claiming his attention. But, before he has done so, he will have let his vitality sink low enough to allow those microbes to get to work—and the last state of that man shall be much worse than the first. It may be questioned whether the microbes could maintain lodgment, even though remaining inactive, in perfectly healthy organs; but, be that as it may, safety is surely best conserved by keeping the organs sound, clean and vigorous for the proper discharge of their several functions. The assumption is no doubt correct, that the microbes could have no opportunity to work—and it may be questioned if they could even exist—in a person who had undergone a thorough course of Ayer's Compound Extract of Sarsaparilla. That medicine works its alterative miracles in purifying, enriching and vitalizing the blood, through its cleansing, stimulation and energizing of the organs of assimilation, digestion, elimination and secretion. Compounded of the most potent alteratives, vegetable and mineral, known to pharmacists; with conscientious care and a degree of scientific skill employed in the preparation of no other proprietary medicine; it is deservedly recognized by the medical profession as a standard preparation, the component parts of which are as perfectly known and its effects as indubitably certain as anything in the Pharmacopia. And for more than half a century it has stood first in popular favor in all parts of the world, as the most reliable and safest of all household remedial necessities.

## DEAFNESS CANNOT BE CURED.

By local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian tube. When this tube is inflamed you have rumbling sound or imperfect hearing, and when it is entirely closed, deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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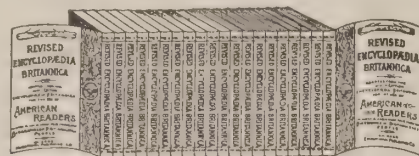


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THE SIGNIFICANCE OF A REPUTATION.—A member of the Yale crew was recently taken ill suddenly with abdominal pain, vomiting, and other symptoms referable to the appendix vermiformis. A New York surgeon who had written much regarding that small but important portion of the body was summoned. As the consultant left the room the student asked his name. "That," said the nurse, "is Dr. X—." "Good Lord!" said the young man, "then I must have appendicitis." His diagnosis was correct.

## MISCELLANEOUS.

### FARMING FOR A LIVING.

Secretary Morton reminds the croakers that only about 3 per cent of all the merchants escape failure, whereas hardly 3 per cent of the farmers fail. The statistics really show that agriculture is safer than banking, manufacturing, or railroading, taking all things into account. There is no farmer of good sense and good health anywhere in the West, Mr. Morton declares, who cannot make a good living for himself and family and that is as well as the majority of men are doing in any other pursuit. The man who owns a farm and sticks to it is sure to profit by it in the future. There is practically no more land to be added to the area of cultivation. The supply of agricultural products has reached its limit in the United States, and must now remain stationary, while the demand will go on increasing every year. This implies a gradual improvement in prices, and a steady appreciation of the value of farming lands.

THEY WERE IN IT.—Poet—Have you read my lines?

Editor—Yes.

Poet—Well, are they in it?

Editor—Yes; I have just put them in it.

Maud—Now, when I am asked to sing I never say, "Oh, I can't!" but I always sit right down at the piano—

Mamie—And let the audience find out for themselves?

"Yes."—Truth.

### AN ERRONEOUS PROVERB.

There is a proverb, "It is darkest just before dawn." Has the old saying any scientific basis?

Answer.—It is *not* darkest just before dawn. The maximum of darkness begins when the sun has sunk below the horizon so far that none of its rays are refracted to the earth by the atmosphere, or reflected by clouds, and continues without variation until it reaches a point near the eastern horizon when the light reaches the earth once more, marking the commencement of dawn. It is hard to understand how such an erroneous idea came to be generally accepted.—*Popular Science Monthly*.

### THE ENGINEER AT HIS POST.

Meantime, what is the engineer of the fastest train in the world doing for the passenger? In the first place, the New York Central's Chicago flyer is not driven by one but by many engineers. In order to cover the nine hundred and sixty-four miles between the two cities in twenty hours, including nine stops, there are required seven huge engines in relays, driven by seven grimy heroes. A run of less than one hundred and fifty miles is the limit per day for each engine, while three hours of the plunging rush wears out the strongest engineer. Sixty, seventy, eighty miles an hour—what does that mean to the man at the throttle? It means that the six and a half feet drivers turn five times every second and advance one hundred feet. Tic-tic-tic, and the train has run the length of New York's highest steeple. The engineer turns his head for five seconds to look at the gauges, and in that time the terrible iron creature, putting

forth the strength of a thousand horses, may have shot past a red signal with its danger warning five hundred feet away. Ten seconds, and one thousand feet are left behind—one-fifth of a mile. Who knows what horrors may lie within that thousand feet! There may be death lurking round a curve, death spreading its arms in a tunnel, and the engineer must see and be responsible for everything. Not only must he note instantly all that is before him, the signals, switches, bridges, the passing trains, and the condition of the rails, but he must act at the same moment, working throttle, air-brakes, or reversing-lever, not as quick as thought, but quicker, for there is no time to think. His muscles must do the right thing automatically under circumstances where a second is an age. In the three hours of his vigil there are ten thousand eight hundred seconds, during each one of which he must watch with the mental alertness of an athlete springing for a flying trapeze from the roof of an amphitheatre, with the courageous self-possession of a matador awaiting the deadly rush of a maddened bull; and far more depends upon the engineer's watching well, because, if he fails by a hair's breadth in coolness or precision of judgment, there may come destruction, not only to himself, but to hundreds of passengers, who, while he stands guard, are perhaps grumbling at the waiter in the dining-car or telling funny stories in the smoker.—From "At the Throttle," in McClure's Magazine for September.

## The Question

is a simple one—easily decided by reason and common sense.

## COTTOLENE

—the new scientifically prepared shortening—is made from pure beef suet, and highly refined vegetable oil. Lard is made, in the majority of cases, in the packing-house, and not as of old, from the pure leaf of the hog. Which is likely to be the most healthful? Decide for yourself. It must be

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**BUSINESS NOTES.****FOR INDIGESTION**

Use Horsford's Acid Phosphate. If your dinner distresses you, try it. It aids digestion.

Dr. O. Worthly, Lancaster, N. H., says: "I have used it in cases requiring brain and nerve food as a result of overwork, attended with exhaustion and loss of strength, with impaired digestion, with good results."

Dr. I. R. Sanford, Sheffield, Mass., says: "Most excellent in derangements of the nervous system, such as headache and sleeplessness."

**WEARING AWAY TO THE LAND O' THE LEAL**

Is greatly hastened by impoverishment of the blood consequent upon imperfect digestion and assimilation. If the hidden chemical changes, which should go on in that wonderful alembic, the human stomach, which are essential to the proper sustenance of strength and the maintenance of a due amount of flesh and blood, suffer partial interruption, marasmus and wasting away ensues. Children with stomachs disordered by trashy sweets or unripe fruits are peculiarly liable

to this ailment. To check it with certainty, Scott's Emulsion of Cod Liver Oil with Hypophosphites of Lime and Soda should be taken at regular intervals and in strict conformity with the directions. Physicians of repute testify in the most positive manner to its special excellence not only as a pulmonic but also as a recuperator of vigor and flesh. No medicine commends itself more strongly to parents with sickly, debilitated little ones. For all diseases of the throat and lungs, rheumatism, and scrofulous ailments it is the leading Emulsion of Cod Liver Oil and has an immense reputation abroad. It is moreover perfectly palatable.

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gratified but his stock of knowledge is increased, and perhaps information is gained and ideas suggested that will directly contribute to the success of the party concerned. And how are these facilities for reference to be had? How are the millions to procure this library? How are they to obtain the means of informing themselves on every point in which they may be interested; of satisfying themselves with respect to persons and places, on questions of art and science, religion and politics, literature and philosophy, agriculture, commerce and manufacture? How can the workingman hope to bring within his reach the whole circle of sciences and other points of human knowledge that has developed up to the present day?

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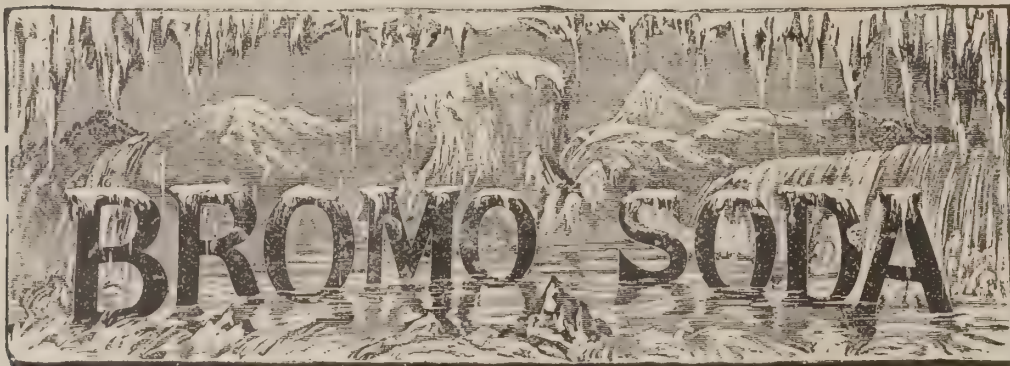
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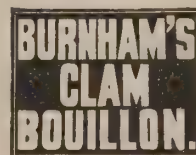
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Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

NOVEMBER 1, 1893.

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### CANNED VEGETABLES.

It may be of interest to our readers to learn what the press has to say about the report of the chemical division of the Department of Agriculture, on the subject of canned vegetables. The *Journal of the American Medical Association* summarizes the report thus: "Tin and lead were found, derived from the can and solder; copper from salts of the metal used for 'greening' the vegetables; zinc in some samples of French goods and sulphurous and particularly salicylic acid, employed for their antiseptic properties. Boric and benzoic acids, saccharin and hydronaphthol were not found in any of the samples examined. Tin is the most common metallic contamination, being present in every can that has been put for any length of time. Tin poisoning from the use of canned goods is not often alleged although Hehner and other experimenters have found stannous hydrate to exercise a marked poisonous action on guinea pigs and other small animals. Lead is freely used by the packers both in the solder and in lower grade tin plate; but there is

little danger of lead poisoning by the use of canned goods, for tin precipitates lead from its solutions and is not attacked by acids in the presence of as much tin as is found in the tin plate used. There is more danger of lead poisoning from the sheet lead top of glass jars than from the solder or lead of the tin cans. The quantity of copper needful for 'greening' amounts to only a quarter of a grain per pound, but much more than this quantity was often found. The temperature required to destroy spores in vegetables tends to disintegrate many of them and render them less attractive in appearance; hence the need of salicylic acid. Doses of one-half to one and a half grams of this acid have been given and taken daily by experimenters for periods of many months without affecting the system in any notable way. Nevertheless its action on the kidneys is recognized, and in exceptional cases of renal disease its continued ingestion in the quantity present in canned goods may be harmful. In dyspeptic cases, also, the antiseptic may do harm by interfering with the normal action of the digestive ferments." It then proceeds to comment as follows: "A trade journal criticises the report for conveying the impression that there is a widespread use of injurious antiseptics in injurious quantities, and points with emphasis to the fact that over one thousand millions of cans are packed and consumed every year in this country alone, and no well authenticated case of sickness has been traced to them, which could not with equal force be attributed to the use of similar articles not canned. The chemists, however, do not intend to convey that impression nor to urge a prohibition of the use of copper salts and preservatives, but they claim the right on behalf of the people, of being informed by notice on the label of the can whether any ingredient foreign to the vegetable is present. Packer should not be permitted to use these substances without notice plainly given of their presence and quantity, for the purchaser should be accorded the privilege of electing whether or not he will take the doses."

The *New England Grocer*, under the headline, Poisonous Canned Goods, tries to soften that scary heading down by a subhead saying "Don't Get Scared, This Is Merely from a Government Report," and adds:

"The subject of foods and their adulterations is one that comes close to the stomach, if not to the heart of everyone; and the United States Department of Agriculture, through its division of chemistry, has something to do when it undertakes to keep track of the analysis of those prepared foods which are thrown on the market and are subject to criticism as being injurious to public health. A recent bulletin issued by this department shows that there is a great deal of adulteration—indeed, it is almost universal—and there are few canners who do not use salicylic acids or other preservatives in a trade in canned vegetables which has grown to enormous proportions. There are intentional additions and adulterations. But there are others which are incidental, due largely to methods employed and the quality of tin used in canning; and these deleterious

substances are lead, tin and zinc, and sometimes copper and iron, although the last two are not as injurious as the others.

"The trouble with tin is, that while 'bright plate' should be used, 'terne plate,' which is covered with more or less of a mixture with lead and tin is substituted. As tin is worth many times as much as lead, the tendency is to use the cheaper grades, although lead and iron have very little affinity for each other; and the results show that while there may be some poisoning from solder, there are traces of lead in the large majority of the samples examined. For many years it has been determined that in the preparation of vegetables the green color should be retained, and sulphate or acetate of copper has been used for that purpose. The examinations of the Agricultural Department covers over eighty samples of peas, of which forty-three were packed in this county, and nearly all contained traces of copper, zinc or lead, while fifteen samples, ten of these American, contained salicylic acid; nearly the same proportion obtained with the samples of beans.

"In the forty-one samples of canned corn, zinc occurred in thirteen, salicylic acid in twenty-four, and sulphurous acid in nearly all. Seventy per cent of all samples of tomatoes contained salicylic acid, and about the same proportion was found in those cases of canned and bottled asparagus which were examined. To what extent salicylic acids, salts of lead and copper are injurious in these foods, it is difficult to determine. Occasionally the physician is suddenly called to a family showing symptoms of metallic poisoning, traceable to canned goods, and sickness or death follows. These are injurious substances, and their disuse and the impossibility of contamination should be enforced by law. Glass cans are cheaper and safe, and should be substituted."

The *Dietetic and Hygienic Gazette* says: "The public mind needs to be aroused to a general recognition of the possible dangers attending the common adulteration of articles of food, and the adulterator made to feel that he is liable to detection and punishment either directly or indirectly. The State should manifest as much interest in the health and food of the people as in the health and food of the domestic animals; yet it is a conspicuous fact that in this country hundreds of thousands of dollars are spent each year by the general government in sustaining the agricultural experiment stations, where the food of the domestic animals is carefully looked after, while very little attention is given to the character of the food consumed by the people. The Department of Agriculture, however, is doing some good work in this direction."

Greening vegetables with copper salts has long been practiced in foreign countries, especially in France, and many arguments have been brought forward at various times in favor of this pernicious habit. Originally, the object sought was accomplished by cooking the vegetables in copper vessels, the acid juices exercising a solvent action on the copper with formation of soluble copper salts, which were readily absorbed by the



vegetables, giving to the latter a fresh green color. Latterly, however, preservers and canners of such articles of food have learned that the desired result can be even more readily obtained by the direct addition of a copper salt, such as the acetate or sulphate of copper, and this constitutes the method now usually adopted. Upholders of this method of treatment have sought to show that copper is a constant constituent of most animal and vegetable tissues, and that, consequently, it cannot be considered, at least in small quantities, as injurious to health. It may, indeed, be granted that copper salts are not especially injurious, at least to the majority of mankind, when taken in small amounts, but this fact certainly cannot be used as an argument in favor of their use for the above purpose. Copper salts, like other related metallic compounds, are not needed by the human system; they are naturally foreign substances, and whenever they are introduced into the organism the system makes a strong and continuous effort to expel them. Larger doses of copper salts, however, unquestionably exert pronounced toxic action, and it is fair to assume that smaller quantities, likewise, have an unfavorable action upon the economy; although it may not be sufficiently marked at any one time to lead to pronounced results. Looked at from the position of a consumer of such goods, the practice is certainly to be condemned, for not only is it in direct violation of the law, which states, "that an article shall be deemed to be adulterated if it be colored, whereby damage is concealed, or it is made to appear better than it really is, or of greater value; or if it contain any added poisoning ingredient, or any ingredient which may render such article injurious to the health of a person consuming it;" but the custom has nothing to recommend it from a dietetic standpoint; the food-value of the product is not increased; the process is not necessary for the better preservation of the article; in fact, the only object gained is simply a greener and fresher appearance, which may be pleasing to the eye and possibly suggestive of greater palatability and increased nutritive qualities. But this latter view is wholly fallacious; nothing of practical advantage is gained by the method, and serious danger is threatened.

But copper salts are not the only metallic poisons to be dreaded in this class of food-stuffs. Lead salts are far more dangerous as poisons, and from the lavish way in which lead is used in the canning industry, one may confidently expect to find even more than traces of this poison in many goods now upon the market. The very magnitude of the packing and canning business is a sufficient indication of the importance of this subject. The cry of warning has been sounded for many years, but the heed given to it has been, as a rule, only temporary or local. Some of the results noted in the bulletin just issued from Washington, plainly show the necessity for careful investigation of canned goods for possible contamination with lead. Unlike copper, lead and lead salts are not usually added intentionally, but are carelessly introduced through the too lavish use of solder, or from the employment of low grades of tin plate in the manufacture of the cans. Another way in which lead is introduced into this class of goods, is through the foolish employment of lead tops or covers to the glass bottles in which the vegetables are packed, such covers (made of sheet lead) more than counterbalancing the good accomplished by the use of glass receptacles, since the contents of the glasses have free access to the lead, thus enabling the acid juices to oxidize the metal and form soluble lead salts, which are bound to exert more

or less of an injurious effect when taken into the system. As is well known, one of the most characteristic properties of lead is its power of accumulating in the system even when taken in very small doses, and its use is always to be condemned in all operations where it might come in contact with food.

Careful reading of this bulletin makes it very evident that thorough inspection of this class of preserved food-stuffs, of which there is an enormous consumption in this country, is imperative, and that wherever there is an adequate law for the protection of the people, it should be enforced in all cases where the evidence is sufficiently plain to warrant prosecution. As a final result we may hope for greater care in the canning and packing of these important accessories to our daily diet; for with the present wide-spread evil confronting us, thoughtful people will refrain from using such products until there is a greater surety of chemical purity.

#### NE SUTOR ULTRA CREPIDAM.

We find in the *Pharmaceutical Era* an article reprinted from the *American Grocer*, entitled, "To What Extent Is the Use of Preservatives in Food Justifiable?" This article is the production of Mr. Joseph F. Geisler, Ph. C., who adds to his name the title of Official Chemist to New York Mercantile Exchange and New York State Dairy Commission. We have no fault to find with the gentleman or his titles and are perfectly willing to sit at his feet and listen to chunks of wisdom on the subject of chemistry, but when he attempts to serve his employers in the capacity of physiologist, hygienist or pathologist, we cannot follow him. In the article in question he quotes the decision of the sanitary commission in Paris a few years ago which he says was composed of eminent scientists, and after stating that this commission had made a thorough investigation regarding the use of salicylic and benzoic acid and as a result had condemned the use of these preservatives, which were as a consequence of their report forbidden by French laws, he makes a very weak attempt to show that these scientists were all wrong, and attacks "the hygienic principles underlying their objections as of questionable stability." Mr. Geisler also boldly asserts that "the true merit and wholesomeness of food products depend first whether they are in a condition to be eaten." He says "the appearance, smell, taste or peculiar flavor make an article of food palatable, in fact the flavor and smell are in many cases the indications of the wholesomeness of a food." He does not say it in so many words but implies that taste and smell are more important factors as to the wholesomeness of a food than its real condition. Has Mr. Geisler discovered a method by which he can smell or taste the presence of salicylic acid, lead or copper in canned goods?

He then goes on to discuss the preservatives which are used to keep food fresh, and says that they act by preventing fermentation. He adds: "The question therefore arises: What is the physiological effect *per se*, under these conditions, of the preservatives used?" Mr. Geisler here attempts some special pleading in favor of preservatives. His illustrations of the right and wrong use of condiments do not apply. He even attempts to be facetious by suggesting that a mustard poultice would not be good to eat but that some of the mustard of which it is composed would, if used in proper quantity. But let us quote: "Some of the preservatives are unquestionably deleterious, poisonous and objectionable when used in certain quantities. On the other

hand, in minute quantities some of them are harmless. It must be borne in mind that some substances taken into the system, even in very minute quantities, become poisonous by the accumulative effect, the system gradually becoming charged with more than it can eliminate. Any one who has carefully made experiments with preservatives will have noted that when the dilution of the preservative has proceeded beyond a certain limit its retarding or antiseptic influence is either diminished or inappreciable, and therefore no longer prevents fermentation. Such perishable articles as are preserved, contain, as a rule, a limited quantity of the antiseptic, generally just sufficient to properly keep them while in that state of concentration. It is obvious that during a meal such articles would be diluted to the extent of several times their volume with other food or liquids, so that the preservative in the original article would become attenuated far beyond the antiseptic power of the preservative. It would no longer prevent fermentation, and it is but natural to infer that it would not prevent digestion, since so much stress is laid upon the analogy between the processes of fermentation and digestion. The absolute prohibition of preservatives on this score is therefore questionable."

After halting here, to introduce a side issue about ptomaines, perfectly irrelevant to the subject at issue, he flings himself enthusiastically into the physiological aspect of the subject thus:

"Other foods, again, by their deterioration lose their flavor and palatability, and when taken into the system in this condition are apt to give rise to digestive disturbances, the loss of flavor being accompanied by more far-reaching changes. It is a common thing to see syrups, catsups, sauces, and the like in an active state of decomposition eaten in the household and restaurants. There can be no question that such articles are more deleterious than food otherwise wholesome, but containing a minute quantity of a preservative such as salicylic or benzoic acid. However, the indiscriminate use of medicinal substances in food products cannot be tolerated. Sanitarians could not countenance the extensive use of antiseptics in milk, beer or wine, articles which are liable to be indulged in and to excess. But there are articles of food which from the manner of their use and quantity consumed would be eminently more wholesome and palatable articles of diet with than without the preservative. There are few subjects more difficult to determine than the physiological effects of minute quantities of mildly medicinal substances upon the system and the digestion and assimilation of food. Do they increase or retard the flow of the various secretions which are concerned in the digestion of food? and how is the action of such secretions influenced by the presence of the minute quantity of the preservatives? are questions not easily answered—and perhaps unanswerable.

"Conclusions in such cases are too frequently drawn from the effects of overdoses or the action of the substance upon invalids. Invalids are necessarily restricted as to their diet. In fact, certain diseases require a special limited diet of food, either non-saccharine or easily digestible. But the food prohibited in one case is not so in another. It seems but logical to apply the same course of reasoning to the use of preserved articles of food.

"The small quantity of preservatives, limited to quantities actually required to preserve a properly prepared food product, are in that condition of little or no consequence, as far as any deleterious effects upon the healthy human organism are concerned. Boards of health are given almost



unlimited power in the matter of determining what is permissible as an addition to food products from a sanitary standpoint, and it must be admitted that such power is essential to such a body to protect the public against unscrupulous manufacturers. It is safe to predict, however, that it will not be many years before preservatives will be tolerated to a limited extent under certain conditions in articles of food of special manufacture, although public safety demands a prohibition of the indiscriminate use of preservatives in foods."

There can be but one verdict upon Mr. Geisler's article. So far as he sticks to the chemistry of the subject, he knows what he is talking about, but when he gets on physiological and sanitary grounds he gets very shaky; he seems to lose confidence in himself and comes down to a very weak and uncertain conclusion, a sort of Captain Bunsby opinion. Let him stick to chemistry, he will be all right there, but when he attempts to advance theories and opinions as to the merits or demerits of preservatives in foods, he does not convince the public nor does he help the cause of the packers.

#### OLEOMARGARINE.

There can no longer be any doubt that the people look upon oleomargarine as a healthful and pleasant tasting food product, better by far than nine-tenths of the nasty mess generally sold as country butter and at about one-half the price. Chemists who have made an impartial study of the subject have stated over and over that there is nothing deleterious about this butter substitute and yet we are confronted by the anomaly of a law passed by several of our legislatures practically outlawing the manufacture and sale of this product and the Congress of these United States has also practically set its seal of condemnation upon it. Why is this? It seems to us that it was because the majority of our legislators are politicians, who test every question before them by the number of votes at the next election that their action upon a proposed measure will influence one way or the other. In this particular instance their mental logic was very apparent. They argued to themselves about as follows: Oleomargarine is a substitute for butter, therefore if it is allowed to be manufactured and sold it will reduce the price of butter; and as butter is the product of many of the farmers who have a great number of votes, we must secure these votes by protecting them against the competition of the manufacturers of oleomargarine who have but a few votes. Like all politicians these legislators did not do their protecting openly and above board but threw around it the well worn cloak of protecting the health of the dear public and in doing this they really bound the consumers of butter hand and foot and turned them over to the tender mercies of the farmer. What this means can best be understood when we take into consideration the fact that in one internal revenue district in Pennsylvania alone, over 200 farmers have taken out government licenses to sell oleomargarine, and investigation shows that these same farmers are buying oleo in wholesale packages, work it over a little and then sell it for fresh country butter. It is thus very plain that this law for the suppression of the manufacture and sale of oleomargarine is really a law for the protection of fraud by the farmers upon the innocent purchasers of pretended fresh country butter by permitting these honest (?) farmers to foist oleo upon the public as fresh country butter at a much increased price. The manufacturers of pure clean oleomargarine are thus legally but

falsely branded as malefactors, hindered and prevented from selling a really good healthful article for just what it is, at a fair price, to enable dishonest competitors to control the market with either inferior butter or at best with the same oleomargarine sold as butter at the price of butter. This is the natural result of such pernicious class legislation. We believe in enforcing and strictly observing all laws upon the statute books, but we think that we have given reasons enough for the immediate repeal of such iniquitous legislation. Like all such laws, this one has acted as a boomerang, in fact it has been proved that in other ways aside from the one indicated, this law has almost a directly opposite effect from the one it was pretended it would have. By cutting off a large demand for one of the most important products of the slaughter house, it has reduced the price of beef cattle and undoubtedly has done more pecuniary injury to the farming interests than the oleomargarine laws have ever helped. We will say nothing of the army of hungry office-seekers the oleomargarine laws have foisted on the whole community to be fed at the public crib, and no doubt this was also an important object in the minds of the legislative politicians. The whole matter may be summed up in a few words in the question: Why should not the public be permitted to choose for itself whether to buy a healthful, economical food product from reputable manufacturers or a far worse, so-called, natural product at an exorbitant price? Laws might as well be passed to protect farmers in the price of horses by forbidding railroad trains from running, on the pretended ground that the people must be protected against railroad accidents and therefore relegated to the old fashioned stage coach, which would undoubtedly increase the demand for and price of horses. The people demand a repeal of such laws.

#### QUALITY NOT ADVERTISING.

A prominent chemist not long ago made the broad statement that a man could sell pulverized bricks, if he would only advertise. This was a careless statement and will not bear scrutiny. Undoubtedly a worthless article if ingeniously advertised and totally misrepresented might be sold, but it could only be sold once to the same person. The profit of advertising consists almost entirely in calling public attention to an article, inducing the public to try it, and then if the article is found to be as represented, possesses merit, and such an article is needed, the public will purchase it and keep on purchasing just as long as the article suits best in quality and price. All further advertising then will add to the number of purchasers, by attracting new buyers and reminding old customers of the advantages which first recommended the article to their favor. An article without merit may be sold once, but after that it can only be sold to those who do not know its defects, and thus the advertising will soon cease to be profitable. We have been led to this train of thought by an article in an exchange, which says:

"Trouble has also been brewing between the St. Louis jobbers, or more correctly speaking, one house particularly, and the Royal Baking Powder Company. The jobbers have contended that there was no money in this article for them. Other jobbers are reported to be in sympathy with this house, which has refused to handle the powder longer. The liveliest interest is taken in the action of the revolting house. This matter reminds us of the agitation of the question of profits on baking powder by the Retail Grocers'

Association of this town last winter. Declarations of independence were made by the retailers, and they were quite ready to abandon the sale of Royal; but they contended, after mature consideration, that they would have to force another powder on their customers, while the Royal sold itself. Now, there is no question in our minds that there may be powders just exactly as good as the Royal. We honestly think such powders are on the market to-day. But here is a point that it seems to us cannot be ignored: The Royal people have created a demand for their goods; and they are entitled to enjoy the results of their work. When other manufacturers have made the investment these people have, and there are some manufacturers who are spending as much now, or more, to get their goods before the people, they will be more nearly on terms of equality with the Royal and have a right to demand equal consideration. Otherwise there seems to be no occasion for wasting sympathy with baking powder manufacturers who, not availing themselves of all avenues for advancing their interests, complain that they do not receive the consideration the merit of their goods entitles them to."

This logic is poor, very poor. One reason why the Royal has been compelled to advertise so extensively it seems to us was that they well knew that their powder for many years had a serious defect; it contained ammonia, and as soon as the public became acquainted with this fact they abandoned the Royal in favor of other brands which were really pure and contained no objectionable chemicals. The largest part of the advertising done by the Royal was a peculiar system of diverting attention from the well-known defects of their own powder, by raising a general hue and cry about their competitors' goods, and when they finally met their match and found that they were injuring themselves and building up their competitors, they changed their tactics by reforming their own formula, leaving out the objectionable ingredient and confined themselves to puffing up their own wares without detracting from their neighbors, and thus tacitly admitted the justice of the criticisms to which they had been subjected. Now all this goes to show that the larger part of the advertising done by the Royal was not creating a new demand for their goods, but was simply necessary to hold their death grip on the trade they were fast losing and if possible to prevent competition. There are other baking powders in the market which are better than the Royal, which are more favorably known and against which no one has ever been able to make a truthful accusation, and hence we doubt very much if any grocer has ever been compelled to sell Royal baking powder at a very small profit because he could not as easily sell a first-class baking powder of known purity like the Cleveland at a living profit. Advertising pays best when a really good article is advertised otherwise much of the advertising is wasted.

#### NOTES AND QUERIES.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

R. E.: What is the opinion of the AMERICAN ANALYST of the accompanying sample of Sankey's Life of Leather?

A.—This is like many other similar preparations, probably no worse and perhaps a little better. The advertisement around it claims too



much and asserts a great deal that is not strictly true. We thought it hardly worth while to waste any time upon a special examination of this sample. We would prefer to use a good quality of neats-foot oil or olive oil on leather goods, because it is cheaper and much better than the general run of these doubtful secret mixtures; besides, we know what we are putting on the leather and when you buy these high-priced leather preservatives, dressings or quick polishes, you never know what they contain.

## ADULTERATION.

### ADULTERATION OF PAINT MATERIALS.

There are few countries that have more laws for the prevention of adulteration than our own. In both food and drink protection is given to the public to an extent that is considered, by many of those interested, to go too far, and to do injustice to some of the industries by enforcing frivolous and vexatious regulations. The opinion, however, of the thoughtful public generally is, doubtless, that such laws are, in the main, necessities and a boon in ensuring that a purchaser shall get what he pays for and be protected from deception.

But although so perfect a protection is afforded in the case of all food, there is practically none whatever that touches such articles as paints, and if a manufacturer chooses to sell a mixture of 25 per cent of white lead and 75 per cent of whiting or barytes as and for strictly pure white lead, there is no one to say him "Nay." The result is that a good deal of rubbish in paint materials is palmed off on the unsuspecting consumer as Simon pure, to the discredit of the painting trade, because, be it well remembered, poor paint means poor work.

Much of the adulterated material that is sold under false labels is the product of small firms of but little standing, financially or otherwise. Most reputable firms sell low grade white leads, but the packages are marked in a manner that distinctly indicates the contents to the initiated who buy with their eyes open.

The question arises whether laws should not be enacted regulating the sale of paint materials, with the view of discouraging the sale of those of low grade. Some two years since the Dominion Parliament of Canada passed a bill having for its object "The Restraint of Fraudulent Marking." The bill provides that any person who sells a package of paint material, such as white lead, calculated to deceive or mislead the purchaser, shall be deemed guilty of a misdemeanor, and be subject to a heavy fine. All possible misunderstanding as to what false labelling might consist of is provided against by a schedule, in which are described the various articles covered by the Act; for instance, dry white lead is described as "basic carbonate of lead prepared only by corrosion of metallic lead," and white lead in oil is described as "dry white lead ground in pure linseed oil in the proportion of 90 to 92 per cent of the former to 8 to 10 per cent of the latter." A provision is made that the schedule may be added to from time to time by the Governor in Council, who shall advertise such conditions in the official journal.

In considering the advisability of enacting such a law in our own country it is well to ascertain the effect of it in Canada after it has been in force for nearly two years. It may be presumed that the conditions affecting painters and paints

do not differ much in the two countries. According to the latest reports, the effect of the law has been to practically drive the bogus leads out of the market—a fact that clearly indicates that those who purchase them do so under a misconception—that they believe they are really buying pure leads, as the labelling would indicate. The want of durability of bogus leads has long ago been demonstrated, and it is not difficult to suppose that the effect of the Canadian law has been to improve to a considerable extent the general quality of painting in the Dominion.

Having in view these facts, it would appear that a similar law would be productive of good results here.

### FRENCH FRUIT ADULTERATION.

Some ingenious fruit dealers of Paris have invented a way of coloring their wares in order to improve their market value. They color ordinary oranges a deep red making them look like mandarins, which fetch much higher prices. They also tint pineapples to make them look more attractive, and dye the common white strawberries a lovely red. Melons are now being treated in a similar way, and tinted a fine orange, their flavor being increased by injecting an essence of melon. The latest development of this business is in connection with pears, which are dyed red for a third of their size, and blue below, thus presenting the national colors when peeled. These are said to be in some demand for dessert fruit on account of their novelty.—*London Daily News*.

## CORRESPONDENCE.

### HONEY ADULTERATIONS.

MR. EDITOR:—In your article on honey adulterations, page 225, your October number, I found statements of Prof. Cook, of the Agricultural College, Lansing, Mich., which need correction, as I feel safe in saying that not a well-informed beekeeper in America agrees with the professor in the points I shall mention.

As a practical beekeeper and dealer in honey, the right handed or left handed rotation of the scientist don't trouble me any, but Prof. Cook says: "As honey-dew honey will never be put in the market, this question is of scientific rather than of practical value." In reply to this I wish to say that we sold honey-dew honey, more or less every year. And in the fall of '91 to the spring of '92 we have sold more than 75 barrels, 500 to 600 lbs. in a barrel.

In speaking of sugar syrup fed to bees and stored by them in their combs, Prof. Cook calls it honey. So do I. It is sugar syrup honey. It tastes like the syrup fed to the bees and has its color and it cannot be otherwise. And it has the acid from the honey sack of the bees. None of us doubt the professor's statement that the chemist is unable to distinguish sugar syrup honey from the honey of flowers. But when Prof. Cook says that the best cultivated taste cannot tell the difference, then I say that the Professor is "off," and I dare say that every practical beekeeper in the land will differ with Prof. Cook.

Every variety of honey has its color and its flavor from the source from which it was derived. For instance, "white clover" honey tastes alike all the world over, but it is finest (and pure "white clover" only is produced in such parts of the country) where no other honey yielding flowers blossom at the time when "white clover" is in bloom. Such is the case, principally, in Ohio, Kentucky and Indiana. The purity of the "white

clover" honey is lost in the Southern States because too many other honey yielding flowers are in bloom at the same time with "white clover." The linden blossom follows very close the white clover bloom in the Northern and Northwestern States, and therefore their "clover" is generally mixed with the linden or basswood honey. The same is the case with every other variety of honey. It requires no expert to tell with accuracy the white clover, the basswood, the golden rod, the aster and the buckwheat honey of our part of the country; the sage of California, the mangrove and orange blossom of Florida, or the alfalfa honey of the West. Sugar syrup honey tastes like sugar syrup. Another flavor is an impossibility and nobody would be more prompt to denounce it than the public.

CHARLES F. MUTH.

Cincinnati, Oct. 10, 1893.

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### MULLAGATAWNY SOUP.

Put half a pound of butter with six large onions, sliced, three cloves of garlic, some chopped parsley and sweet marjoram, into a stew pan; let it stew over a slow fire till of a light brown color; cut into small pieces five pounds lean beef and let that stew till the gravy be extracted, then put in three quarts boiling water, half a pound barley and let it simmer four hours slowly; mix four tablespoonfuls curry powder with cold water and add it to the stock; take out the beef and put the barley through a sieve to thicken the soup. Cut a fowl in joints, skin it and put in a stew pan with a piece of butter, let it stew until quite tender; the stew pan must be kept closely covered; this to be added to the soup the last thing with a pint of boiling milk, and the juice of two lemons. Boiled rice must always be served with this soup.

#### BEEF FILLET IN MADEIRA.

Lard a good fillet of beef, the same as in roasting, join the ends together and place it in a stew pan with some onions, carrots and a bouquet of herbs, some consommé and madeira, cover it with a buttered paper, let it boil for a moment, and afterwards let it boil slowly. When it is done strain the broth through a silk sieve, reduce it and serve it as a sauce to the meat.

#### BOILED ARTICHOKE.

Cut off the stalks, wash them well and let them lie for some hours in cold water; put them in boiling water with salt in it, cover closely and boil an hour and a half or until tender. Put melted butter over them or cream sauce.

#### APPLE PUDDING.

Pare and core six or eight apples, place them whole in a deep dish; pour a batter over them made as follows: Two eggs, a pint of milk and three spoonfuls of flour; bake, serve with sauce.

#### LEMON SAUCE.

Three-fourths cup of sugar, one-half cup butter, one egg, the juice and half the grated rind of one lemon, one teaspoonful nutmeg and one-half cup boiling water. Cream the butter and sugar and beat in the egg, whipped light, the lemon and nutmeg; beat hard, then add the water; put into a tin pail and set within the uncovered top of the teakettle, which must boil until the sauce is very hot, but not boiling. Stir constantly.



## LAYER CAKE.

One cup sugar, yolk of two eggs, white of one, half cup of water, two cups flour, two teaspoonfuls baking powder, a pinch of salt. Bake in jelly tins. Nut filling.

One pint milk, heated in a steamer; when it is hot add one tablespoonful cornstarch dissolved in a little cold milk, two eggs, two-thirds of a cup of sugar, one cup of chopped hickory nuts. Cook until it thickens. Put between the layers of the cake while both are warm but not hot.

**TO TELL ALL WOOL FROM MIXED COTTON GOODS.**—According to the *Sanitarian* the genuineness of woolen clothing may be tested by placing a small fragment in caustic soda, which quickly destroys animal fibres, but has no effect upon those of vegetable origin. If the article is all wool it will be completely dissolved; if it has a groundwork of cotton, the latter will remain.

**VEILS HARMFUL.**—Women do not realize how much harm is done to the eyes in wearing veils, especially the coarse net or heavily dotted ones which are so popular now. A specialist has said that every dot in a veil is a fee in the pocket of the oculist.

## CEMENT FOR PORCELAIN.

White lead..... 20 grams.

Pipe clay..... 12 “

Mix them with boiled linseed oil, 10 grams; heat on a water bath. The articles cemented are slowly dried in a warm place.

## PAINT FOR DAMP WALLS.

Linseed oil, boiled.....

Turpentine.....

Rosin, of each..... 5 parts

Chalk..... 15 “

Use as paint.

## FIREPROOF PAINT.

Seventy pounds of zinc white, 30 pounds of air slaked lime, 50 pounds of white lead, 10 pounds of sulphate of zinc. Mix the zinc white and lime together and grind in elastic oil, then add one gallon 35 deg. water glass, then the white lead and sulphate of zinc. Stir well. This will make a white paint. If a shade is required add the necessary color.

## FURNITURE POLISH.

Dissolve 4 ounces of orange shellac in 2 pints of alcohol of 95 deg. This will take from 24 to 36 hours, if the liquid is kept in a warm place and frequently shaken. Add 1 pint of oil of turpentine, and shake well. This will probably take up any residue of undissolved shellac. Add 2 pints of boiled linseed oil, and mix well by agitation. When thoroughly mixed add 4 ounces sulphuric ether and an equal amount of strongest water of ammonia, and agitate. Shake the bottle before using. It should be applied with a sponge and very lightly. The furniture should, of course, be washed and thoroughly dried before its use.

## PASTE FOR POLISHING HOUSE FURNITURE.

One ounce beeswax,  $\frac{1}{2}$  ounce white wax, 1 ounce castile soap, 1 pint boiling water,  $\frac{1}{2}$  pint turpentine,  $\frac{1}{2}$  pint spirits of wine. Shred the wax and soap very thin; pour the boiling water upon the shavings and let it become cold; then pour on the turpentine and spirits of wine. Put a little on a cloth, rub it into the furniture, and then rub to a polished surface with a woolen cloth.

One ounce pearlash, 8 ounces genuine beeswax, 8 ounces water. Put all the ingredients into an earthenware jar, and warm the mixture so that it becomes semi-fluid; then add sufficient water to bring it to the consistency of cream. Reduce the consistency by adding more water, and then spread it on the wood with a painter's brush; let it dry, and then polish with a hard brush or cloth.

## CANNED VEGETABLES.

## REPORT OF INVESTIGATIONS AND ANALYSES.

BY K. P. M'ELROY AND W. D. BIGELOW.

[Continued.]

## TIN PLATE IN CANS.

Commercially tin plate is divided into two classes, known respectively as “bright” and “terne” plate, the former being covered with more or less pure tin and the latter with a varying mixture of lead and tin. Bright plate is, or should be, the kind used in canning food, terne plate being intended for roofing. Inasmuch, however, as the price of tin is between four and five times that of lead, plate containing a little lead is somewhat cheaper, and there is a constant tendency among canners to use these cheap grades. In tinning iron plate with a mixture of lead and tin, the coating may be regarded as composed of two layers, the undermost being an alloy of iron and tin containing little lead and a surface layer of tin richer in lead than was the original metal used for plating. This concentration of lead on the surface is due to the fact that iron and lead have little affinity for one another.

Metallic tin placed in a weakly acid solution containing a small amount of lead throws down the latter in the metallic form, becoming itself oxidized. Similarly, if an alloy of lead and tin containing a small amount of lead is exposed to such an acid solution the tin dissolves first.<sup>1</sup> This play of affinities, however, does not hold good in the case of alloys containing large amounts of lead, such as solders, for from these lead and tin may be simultaneously dissolved. In any case, the difference in the affinities is too slight to allow the consumer to implicitly rely on it to save him from the effects of the canner's greed. Lead poisoning is a serious thing and no chances should be taken.

In Germany the laws relative to the composition of alloys used for plating tinware are rigid. The law of June 25, 1887,<sup>1</sup> reads:

“§ 1. Cooking, eating and drinking vessels, as well as measuring vessels for fluids \* \* \* shall not be tinned with an alloy containing more than 1 part of lead in 100 parts, nor be soldered with an alloy containing more than 10 parts of lead in 100 parts by weight.

“The tinning on the interior of cans for preserving food must satisfy the requirements of § 1.”

The plating alloy of a few cans from the pea samples was examined. In most cases lead was present. The quantity found varied within tolerably wide limits, as may be seen from the subjoined table:

## PER CENT OF LEAD IN PLATING ALLOY.

Serial No.	Lead.	Serial No.	Lead.	Serial No.	Lead.	Serial No.	Lead.
10694	2.21	10706	6.63	10724	1.93	10889	0.00
10695	1.21	10708	13.03	10870	.53	10890	4.16
10696	1.08	10709	9.87	10871	0.00	10891	11.69
10697	0.00	10710	4.86	10872	.47	10898	0.00
10698	3.12	10711	.86	10873	.44	10900	5.30
10699	11.53	10715	.22	10874	0.00	10901	0.40
10700	12.42	10716	1.51	10876	.66	10905	0.88
10701	0.54	10717	1.41	10881	0.00	10906	1.64
10702	9.02	10719	.91	10882	3.26	10980	3.20
10703	0.40	10720	1.86	10884	1.68	10981	0.00
10704	0.00	10721	.41	10886	0.15	10984	0.62
10705	1.06	10722	.66	10888	0.00		

The results shown under Nos. 10699, 10702, and 10703 were all from cans packed by a single firm whose goods are widely sold in Washington. No. 10699 cost 13 cents per can and No. 10702 10 cents. No. 10709 was sold at 18 cents, thus enabling the packer to use a better quality of tin. Nos. 10700, 10706, 10708, 10709, 10710, 10882, 10891, 10900, and 10980 are all bad. No. 10891 was put up in France.

In regard to the methods of analysis usually given for the detection of lead in tin plate and for the analysis of the coating alloy, it may be said that they are unsatisfactory. Pinette proposes to attack the tin coating with dilute nitric acid, decant the fluid and suspended matter from the residual iron, evaporate to dryness on the water bath, take up with nitric acid, filter and weigh the tin oxide, and in the filtrate estimate the lead as sulphate. Results are calculated by adding the lead and tin found together and ascertaining the per cent of the sum due to lead. This method suffers from the radical defect that alloys of tin and iron, such as are found under the outermost layer and in immediate contact with the iron, cannot be parted by the usual nitric acid separation. Tin goes into solution and iron remains with the tin oxide, from which it cannot be extracted by nitric acid. In the tin oxide obtained by following Pinette's method the amount of ferric oxide ranged from 4 to 12 per cent of the total, running usually between 4 and 10. In filtering the tin oxide, the nitric acid solution was difficult to filter clear and when wash water was used the filtrate became turbid. Of course, all tin going into the filtrate would count as lead when using the customary sulphuric acid precipitation, and of course the error due to ferric oxide retained by the stannic oxide tends to counterbalance that due to dissolved tin, but for the increase in lead there is no such compensation. It may therefore be safely concluded that the method is not accurate.

In the analyses given the method used was to dissolve the plating with weak aqua regia, neutralize the solution with ammonia, add excess of ammonium sulphide, digest on the water bath, filter, once more digest the solid residue with sulphide, and refilter. In the united filtrates tin sulphide was precipitated by hydrochloric acid, filtered and weighed as stannic acid. The solid residue from the sulphide separation was dissolved in nitric acid and lead determined as sulphate. This method, although accurate, was too cumbersome and time-consuming to permit the examination of many samples.

The tin-iron alloy is more difficult of solution than the surface alloy of tin and lead, so that in stripping the tin plate by acids, as in the methods just described, there is a tendency to leave this interior layer to a greater or less extent. For this reason, unless care in this respect be exercised, the subsequent analysis will show the ratio of lead to tin greater than it was in the original alloy used for tinning.

There is a qualitative method often proposed, which consists in putting a drop of weak nitric acid on the tin, evaporating to dryness, and moistening the spot with solution of potassium iodide. A yellow coloration resulting is supposed to indicate lead and by its intensity to give an approximate idea of the amount present. An alloy of 99.5 parts tin and 0.5 parts lead thus treated gave a yellow color which did not materially differ from that given by an alloy of 88 parts tin and 12 parts lead.

[To be continued.]

If there is any selfishness in a man it is sure to crop out when he is hungry.



## MEDICAL.

### THE DOCTOR AND THE COOK.

We find in an able editorial in our esteemed contemporary, the *Philadelphia Medical and Surgical Reporter*, the following, which we deem of great importance to our readers:

It is the popular belief that the relation between the physician and the cook is only that the former profits by the work of the latter. And in truth the cook has been a stay to the physician—an inexhaustible source of work for the medical man.

That medicine has become the science of the prevention of disease rather than the cure of it, is true despite weary iteration. Likewise is it true that the intelligent application of dietetic and hygienic measures is supplanting the empirical use of drugs. More and more is the attention of the medical profession given to removing the predisposing as well as the exciting causes of disease, anticipating rather than awaiting the actual presence of sickness. Greater dependence is placed upon fortifying and reinforcing the citadel threatened than upon trusting to the explosion of some hidden mine to rout the enemy in actual engagement. This tendency in modern medicine is the natural outcome of appropriating the advanced results of collateral sciences and making practical use of them in the interests of diseased humanity.

Medical students are prone to regard the time spent in the study and the laboratory on such subjects as physiology or chemistry, as being out of proportion to the benefit to be derived when the opportunity comes to put to practical application the lessons learned as students.

This objection appears pertinent, and even logical, so long as there obtains that mis-begotten product of ignorance and superstition, the belief that treatment consists principally in the application of drugs, and that diagnosis means the selection of a proper remedy.

That the student mind does not appreciate the great importance and mutual dependence of his preparatory studies is more the fault of his teachers than of himself. He pursues his various studies as separate and distinct branches of science. He has a vague impression that these different branches bear more or less on the general practice of medicine. Just how he cannot at the time understand, and he is left to his own resources to find out. The average medical student, especially if he has received no training preliminary to his professional education, is not capable of judiciously selecting and assimilating that which is valuable and necessary from the heterogeneous chunks of information hurled at his devoted head during his attendance upon two or more full courses of lectures in a medical school.

It follows that he gives his attention to what he regards as the most important studies, to the neglect of those whose value is not evident to him, and not until he has graduated and, having survived the inevitable attack of macrocephalus, learned how utterly inefficient has been his preparatory training, does he appreciate the importance of the branches neglected. How could it be otherwise when the great one from his chair of practice, delivers an oracle concerning some disease—its etiology, pathology, symptomatology, diagnosis, prognosis and treatment—all dogmatically and without an anatomical, physiological or chemical reason or explanation in the whole extract from ancient authorities.

It is no easy matter to specify just what and how medicine should be taught, but it is evident

that there will be a great economy of time and energy when admission to the study of medicine can be gained only by demonstrating a thorough grounding in the elements of the collateral sciences. Surely the medical school is not the place for teaching elementary chemistry or botany or physiology or the like.

When the student comes ready to apply principles already learned, teachers will no longer be able to comfortably give kindergarten shows, but in order to survive, will be compelled to strain every nerve to perform their true functions, namely the gathering, sifting, selecting and preparing, from all sources of modern medical thought, pabulum ready for digestion and assimilation by discriminating minds of earnest researchers. This may be an ideal condition, but the steady advancement of the standards of medical education gives much promise for the future.

Under existing conditions, the physician, painfully realizing his lacks and the necessity of unlearning much that he has been taught, seeks information from all available sources and thereby acquires knowledge. This acquired, he endeavors to put it to practical use. Herein is wisdom.

The subject of food and its proper application is now assuming imposing importance. Familiar with the physiological processes of tissue building and waste, the whole subject of nutrition is opened up for study. This brings into play chemical as well as physiological wisdom—that is, knowledge applied. But to obtain the desired ends it is not sufficient to know only the general character of the required foods. The physician must know not only what food stuffs will answer the requirements, but he must know how such food stuffs are to be prepared to work efficiently. This carries with it some knowledge of the kitchen for the simple reason that cooking involves processes of chemical change which may make or destroy entirely the value of the food stuffs.

In sooth, the physician is expected to know all of some things and some of all things. The physician knows it is not sufficient to give the very vaguest instructions as to what a patient may or may not eat, and trust to the ordinary kitchen mechanic to produce the desired results. He must, if necessary, be able to give for the preparation of food directions as specific as he gives the pharmacist for the preparation of medicine. This does not necessarily mean that every physician must qualify as a chef. It will be sufficient for practical purposes, if every physician will study the food stuffs in common use in the locality in which his work lies, and learn so that he can teach the modes of preparation by which the nutritive value of the various food stuffs may be developed.

The physician in the kitchen is no longer a joke.

### SPECTACLED CHILDREN.

Who has not noticed the growing army of spectacled children, and of adults below the age when one is expected to wear glasses because of the presence of approaching old age? Especially among children is this seen. When we were a boy it was a very unusual thing to see a child with glasses and few adults under forty-five or fifty years of age wore them. Indeed it was so rare as almost invariably to require, if not an apology, at least an explanation.

Various explanations have been offered, and the popular custom even with oculists is to blame it on over-crowding in the public schools; on defective lighting of the school buildings; on

too close application to study, and a number of other faulty methods of early life.

With all due respect for a respectable and growing class of specialists—the eye-doctors—we believe this condition is largely attributable to them. We believe if there were fewer oculists, and if those of this class were less wise, there would be fewer children and adults by several hundred per cent wearing glasses.

We believe the homes are constructed and home environments have all been so adjusted within the last twenty years as to favor instead of obstruct the normal functions of the eye. We believe school rooms and public halls are built and have been built for some years past with more special reference to the care and comfort of the eye. We know that text books have better type and paper better adapted to the eye than when we were a boy. We know that school hours are shorter—that recesses are more frequent and that fewer days in the week are required in the school room.

In Pennsylvania thirty-five or forty years ago the school houses were built largely after one general style—a rectangular building about 40x60 feet.

The windows were on the sides. There was on the two sides and on the end up to near where the “master” sat, a broad writing board with a backless bench running parallel with the writing “desk” or board. Most of the work done by the further advanced scholars was done facing the wall or window—neither of which was to exceed two or two and one-half feet distance. Here the writing and “ciphering” was done, and when through with this part of the day’s work the scholar, if he turned his back to the desk the glare of light from the opposite windows greeted him. The seats for the smaller pupils learning their A B C’s or who had been promoted to spell and pronounce “ba” or “ab” were paralleled with the sides of the house and from morning until evening, from Monday to include Saturday, on dull days and on bright days, without shades on the windows; with only stolen relief from persistent application to the book, this search for knowledge went on. We speak from actual personal experience.

With all this we do not recollect a boy or girl of our acquaintance in school who used glasses in that early day. There were boys and girls who were pale and had bad headaches—there were boys and girls who fell behind in the race for promotion who were considered bright, these were boys and girls with red eyes but no spectacles. There were those who needed them.

Nobody thought of consulting an oculist—there were none. The family physician had too much to do to combat fever and ague and other malarial disorders to give any thought to so insignificant a part of the body as the eye. The liver must be regulated, the bowels looked after, the kidneys touched up and “expectorants” prescribed, and if the eye was very painful “eye-drops” given, but as a general thing the eye had to take care of itself.

In course of time—by a process of medical and surgical evolution oculists have been developed, and as a result we are fast becoming a “spectacled” people. Now this class of specialists are themselves to be blamed as well as compensated for the discovery of visual defects and for the variety of glasses used to overcome them.

The ophthalmoscope and the various revelations made by it in the hands of skilled specialists has revealed visual defects never dreamed of, and have suggested a course of rational treatment by properly selected lenses that not only greatly aid the eye but relieve many heretofore nervous and



brain symptoms that were a puzzle to the general practitioner and that in children lead to an early abandonment of books or to permanently impaired eyesight.

Hence we believe that spectacles are the indices of advancing civilization, and some of the badges of professional ingenuity and efficiency, as well as the promises of wonderful achievements in the future in this specialty.

We favor all measures recommended and adopted that will secure the construction of public and private buildings in every way adapted to the care and development of the eyesight. We believe the world is progressing in this respect—that the time is fast coming when architects and builders who have the best knowledge of sanitary laws will be preferred to all others. At the same time we believe that until a race is born with less hereditary defective vision, the army of the "spectacled" will increase, and the comforts of the wearers of eye-glasses will be enhanced.—*Monthly Bulletin*.

#### PROFESSOR PETER T. AUSTEN.

Dr. Peter T. Austen, whose important work for Rutgers College and Scientific School everyone has appreciated, has been again honored, this time by appointment as Professor of Chemistry at the Brooklyn Polytechnic Institute. The *Brooklyn Eagle* of April 20 has the following:

"A new Professor has been secured by the trustees of the Polytechnic Institute for the department of chemistry in the person of Dr. Peter T. Austen, who will assume his duties at the beginning of the fall term. Next year the department will become a more important feature of the college course than it has been hitherto. Dr. Austen is a native of New York City and about forty-two years of age. After completing his studies in this country he went to Berlin and was graduated as a chemist there with high honors. He was favorably spoken of by such eminent chemists in that country as Hofman, and Biedermann. On returning to America Dr. Austen soon gained a high reputation, and as a teacher and organizer in State scientific schools of New Jersey became well known. The chemical course at the Polytechnic will be remodeled and will embrace four years of study."

### INVENTIONS, SCIENCE, ETC.

#### ISINGLASS—GELATIN—MICA—CROCUS.

Two distinct and different substances are known by the name of isinglass. To which does it properly belong, or to which was it first given? In the same way there is the mineral crocus and the vegetable crocus, not alike in any particular. There are other similar coincidences in pharmacy which I can not recall at present.

The *National Druggist* replies as follows to this question: The word isinglass is derived from the Saxon *ise*, ice, and glass, and, of course, means ice-glass. As to which of the substances, mica or gelatine, it was first applied we have no means of knowing. Both substances were known to the ancients, and descriptions of the method of preparing gelatine (*ichthyocolla*) from fresh bladders, written centuries before the Christian era, are still extant. The acquaintance of the ancient world with mica is well-known, as it serves as the only material for window lights far back into antiquity. We would, from circumstantial reasoning, be inclined to give mica the prior right to the name, as a sheet of that substance has far greater resemblance to ice and glass than

does one of the purest gelatine. The term crocus (Greek, *krokos*; Hebrew, *kurkom*; old English, *croh*; Gaelic, *croach*) meant originally saffron or turmeric. In Greek it came to indicate anything yellow, as *krokos oou*, the yolk or yellow of an egg; and the adjective *krokeos*, or *krokaos*, was used as a poetical synonym for *xanthos* (yellow). From this fact we can easily see how, in course of time, it was applied to those mineral oxides of a yellow hue (crocus of iron, antimony, etc.).

#### NOTES.

The Farbenfabriken of Bayer & Co. have just introduced a new remedy, which they state (confidentially) to be kresotinsäureacetylamidophenylester. Administered to a Constantinopolitanischedudelsacpfeifer, it immediately caused anthropomorphphrenomysmicaliation with refrigeration of the peripheric centers. The last seen of the patient he was playing on a tronduemphilipinotrasiamemomento, which, as everybody knows, is more difficult to learn than a dudelsac.

What a wonderful vitality the city of Damascus shows! To-day, as 4,000 years ago, she is a busy, enterprising, manufacturing city, which even Moslem fanaticism and misrule can not down. An old city, of high renown in the time of Abraham, and before Romulus and Remus had been suckled, her streets to-day are as full of push and activity as those of any American city of similar size (about 160,000 inhabitants). These reflections were caused by seeing in English journals that "licorice from Damascus is finding its way into trade." Prior to 1891 licorice is not mentioned among the exports from that city, but in that year over 950,000 pounds were exported. We have not seen the figures for 1892.

Go away from home to get home news is an adage the truth of which every now and then comes home to all of us. In reading, for instance, that admirable Paris publication, the *Journal d'Hygiene*, we have just found out that the State of Tennessee abounds in lakes which are fairly wriggling with delicious trout, and that these fish will bite at nothing but crickets. The consequence is that the cricket has been all but exterminated in the State, and a syndicate has been formed for their propagation. To this end twelve acres of suitable land has been acquired and inclosed with tight board fencing ten meters (33 feet) high. Buildings have been erected, and already vast numbers of crickets have been hatched out. The writer, with admirable attention to detail, adds that the little creatures are very happy, being in complete ignorance of the sinister purpose for which they are intended.—*National Druggist*.

### HYGIENIC.

#### ILLUMINATING GAS.

SOME OF ITS INJURIOUS PRODUCTS AND HOW TO AVOID MANY OF THE DANGERS PRODUCED BY THESE.

John B. Coppock, F.C.S., contributes to the *London Herald of Health* the following valuable article on the subject of gas and its injurious products:

Gas is a necessity, or at least some kind of illumination is, unless we take to the plan of rising with the sun and going to bed with its setting. This not being practicable under the present con-

ditions, some methods of illumination must be resorted to. We are limited, in the case of dwellings, to either gas or oil, oil including the solid fats known as candles. Undoubtedly for the purposes of health the electric light is better than gas, but until it can be supplied at a cheaper rate it will not be possible to utilize it in our dwellings. No doubt the time will come when such will be the case. Why is electricity better than gas? In the case of gas you have something which undergoes combustion, and therefore gives products of combustion; such products are objectionable to human beings. In the case of electricity there is no combustion and therefore no objectionable products to pollute the atmosphere. Oil used in lamps is open to the same objection as gas, for its composition being very similar, the products of its combustion are similar; in fact, they are identical.

The gas employed for lighting purposes is produced by the distillation of coal in red-hot iron retorts, therefore objectionable bodies found in coal are likely to reappear in gas.

The composition of coal gas is:

Hydrogen gas.....	45.58 per cent.
Methane gas. ....	35.00 "
Carbon monoxide.....	7.00 "
Nitrogen.....	2.50 "
Carbon dioxide.....	3.50 "
Sulphuretted hydrogen....	0.30 "
Other hydrocarbons.....	6.12 "

100 per cent.

Here then in the coal gas, before it is burnt, we find two very objectionable constituents, carbon monoxide and sulphuretted hydrogen. When the combustion of the gas is not perfection, and it is not if the gas is allowed to roar through the burner, the atmosphere of a room is polluted with these two very objectionable gases, the carbon monoxide being poisonous. These impurities should be completely removed at the gas works, but such is very seldom the case. Part of these impurities may be burnt; so much the better if it is the carbon monoxide, so much the worse if it is sulphuretted hydrogen. This gas on being burnt gives rise to sulphurous acid gas, which will corrode metals, decorations, and attack the mucous membranes of the body; it is an irrespirable gas, or one that produces harmful results. This particular gas is a producer of much sore throat in city offices which burn gas throughout the day. This it produces by attacking the mucous membrane of the throat; indeed this very gas is used as a disinfectant in fever hospitals and also in disinfecting infected clothes. The quality of gas supplied to London is not very good compared with that supplied in provincial towns; more of its impurities could be taken out by proper arrangement. Many of the minor ailments of life can be caused by the inhalation of coal gas, e. g., headache may thus be produced; if such inhalation is long continued it may lead to chronic poisoning. The poisonous property of gas is due particularly to carbonic oxide, which may be originally in the gas, or it may be produced by incomplete combustion at the mouth of the gas jet. This carbonic oxide has a greater affinity for blood than oxygen has, so it will therefore take the place of oxygen in the body, and prevent the vital actions from being performed normally, and death will result by gradual poisoning. Persons who sit for many hours in workshops suffer from the effects produced by an insufficient amount of oxygen and an excess of carbonic oxide and carbonic acid. There is among these people a high mortality from consumption. This is nowhere better seen than among tailors, who work with gas constantly burning.



Bronchitis, pneumonia and phthisis are the results of an excess of gaseous poisons in a respired atmosphere. The forerunners of the above diseases are produced by the same breathing of a polluted atmosphere; such forerunners are loss of appetite, anaemia, general ill-health, with an indisposition for mental and physical work.

Continual breathing of impure air lowers the tone of health, and produces a general predisposition to disease. Leaving the impurities in the unburnt gas and coming to the essential parts of the gas, we find them to be carbon and hydrogen. As a result of the burning, carbonic acid gas and water are produced, and so an increase in the amount of carbonic acid is a result of combustion and this is an impurity which is inhaled by human beings. When the gas is not perfectly burnt, particles of carbon escape as soot. This is often the case with combustion of oil, also partially burnt fats of an acrid and irritating nature, and that poisonous gas just mentioned, carbonic oxide. One gas burner consumes as much oxygen and gives out as much carbonic acid as four men at least. It is essential to health that in rooms where gas is used the products of combustion should not be allowed to mix with the air of the room, but should be conducted away into the outer air.

It cannot be too forcibly pointed out that in an illuminated room the greatest source of pollution is the gas, and how often do you find the gas utilized for warming the bedroom, with a consequent using up of the oxygen necessary for vital purposes. The temperature of a bedroom should not be above 60 deg. F., because hot air, especially made hot by gas combustion, is productive of pallor and illness. This also is a fitting place to point out that gas should not be allowed to burn all night in the bedroom, the oxygen is taken up by it, carbonic acid is produced, and the sleeper, instead of being refreshed for the next day by the

storing up of oxygen, has been made very inactive and sleepy by an inhalation of carbonic acid. People suffering from this are by no means uncommon.

Oil behaves in the same way as gas.

The best lamps for burning oils are those with parallel wicks, or circular wicks. The air is allowed to get more into the interior of the flame, and combustion is more perfect. One good oil lamp consumes as much oxygen and gives out as much carbonic acid as two men.

Of candles the best for health are those which are made of the hard kinds of fats, or wax, *e. g.*, stearine, paraffin, spermaceti. These substances do not melt so quickly, as the ordinary tallow candle, and therefore are not so liable to rise faster in the wick than combustion can take place. Two hard candles are equal to one good oil lamp in the case of oxygen consumption and carbonic acid production. Let this physiological fact be well impressed on the mind, that in the night the organism takes in an excess of oxygen, or stores some up, and that the amount of energy put forth on the succeeding day will depend on the oxygen so stored up. Therefore do not abstract the oxygen by burning gas and replace it with carbonic acid. In the words of the "Rules for Health," "Do not have gas, lamp, candle, or night light burning in your sleeping room."

#### AERONAUTICS.

This is the title of a new monthly, issued by M. N. Forney of the *American Engineer and Railroad Journal*, 47 Cedar street, New York, for \$1 a year. From the announcement we learn that an international conference on aerial navigation formed one of the series of "congresses" which have recently met in Chicago. The meetings of this conference proved to be successful and interesting beyond expectation. The efforts of the committee in charge of them to secure the co-operation of scientific and capable men, and reports of experimental investigations, facts and positive knowledge rather than speculations or descrip-

tions of projects, was abundantly rewarded. Some forty-five papers were contributed, covering many of the problems of aeronautics and aviation, and presenting the observations and results of experiments of experts who are eminent as scientific men or experienced engineers or both. The subject was taken out of the hands of "cranks" and was discussed by those who by reason of their knowledge and training were competent to do so. These papers are of very great interest to all who have any concern in the fascinating subject of aerostation.

At the conclusion of this conference the papers and proceedings were placed at the disposal of the editor of *American Engineer and Railroad Journal* for publication in that paper, if it was thought judicious to make such use of them or any portion of them. After due consideration it was thought that as probably only a portion of the readers of that journal would be interested in the subject of aeronautics, that it would hardly be fair or wise to devote as much of its space to that subject as would be required to give all of the proceedings at the conference, or that portion of them which has special value. At the same time it was felt that the interest in aeronautics has grown, and is increasing so rapidly that it would be desirable to have all the proceedings at the conference made accessible to those who are concerned in its subject. It was therefore concluded to print them in the form of a supplement to the *American Engineer*, which may be furnished to the subscribers of that paper at a small extra charge for subscription, and to whoever else might be sufficiently interested in the science and art of flight to be willing to subscribe to the supplement alone.

The proceedings of the International Conference on Aerial Navigation will therefore be issued in monthly parts, each having not less than eight pages the size of those of the *American Engineer*, which are the same as this, and printed in the same type (brevier), and of the size and form employed in the paper already referred to.

Taken out of the hands of cranks, edited by such able pens as it will be, the new journal will, it is to be hoped, soon obtain a constituency which it certainly deserves. The field is large, and many people must be desirous of reading all about aeronautics in a reliable medium in which they can have confidence.

# SCOTT'S EMULSION

## OF PURE COD LIVER OIL WITH

### HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects.

Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.



## MERIT ALWAYS WINS.

An occasional correspondent of the AMERICAN ANALYST, who was at the World's Fair, Chicago, relates that while strolling around the Manufacturers' Building, in company with a friend who was well informed as to the exhibits and exhibitors, he came upon a padoga-like structure, containing the well-known preparations of the J. C. Ayer Company, of Lowell, Mass. There were Ayer's Sarsaparilla, Ayer's Cherry Pectoral, and Ayer's Pills, in their familiar wrappers, and as our correspondent glanced at them, he remarked to his friend:

"I see Ayer's Sarsaparilla is here."

"Oh, yes," was the reply, "and what is more, it is the only Sarsaparilla admitted for exhibition."

"What! Ayer's the only Sarsaparilla on exhibition? How is that, when there are so many similar preparations? Didn't other manufacturers appreciate the World's Fair and try to get a showing?"

"Yes, they did, and made a vigorous effort, too, some of them; but it was of no avail; Rule 15 proved too much for them."

"What had Rule 15 to do with it?"

"Everything. Here it is," answered this very intelligent guide, producing an official pamphlet from his pocket and reading as follows:

"Articles that are in any way dangerous or offensive, also patent medicines, nostrums, and empirical preparations whose ingredients are concealed will not be admitted to the Exposition."

# Indigestion

## Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

Dr. W. W. Gardner, Springfield, Mass., says: "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For Sale by all Druggists.

## 'Twould Cross the Ocean

many, many times, if you could put of Pearline that have been used. millions of packages, to millions of

in a line all the packages Think of it! Hundreds of different women; each one of these women probably just as particular about her washing as you are. They've no fault to find with it, but are using more and more of it every day. Doesn't all this move you to try it for yourself, and as well pleased? Crossing the ocean is easier—quicker—safer, than formerly. So is washing clothes. The latter is due to Pearline.

Send it Back

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearline." IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearline, be honest—send it back.



"That," continued the gentleman, looking up after he had finished reading the rule in question, "explains why Ayer's Sarsaparilla is here, and why all similar preparations are absent."

"Then it seems that Ayer's Sarsaparilla, Ayer's Cherry Pectoral, and Ayer's Pills were classed by the World's Fair directors as pharmaceutical preparations, and not as patent medicines nor secret nostrums?"

"Precisely. That's the situation exactly. These remedies are here on their merits, and are the only ones of their class that could fulfill every requirement of the rules governing the admission of exhibits. There you have the whole story in a nut-shell."

Your correspondent, it must be confessed, was not till then aware that Ayer's medicines had been shown such distinguished consideration, but we are not at all surprised. This was an official recognition of what the AMERICAN ANALYST has all along assured its readers, when taking occasion to mention and recommend these preparations, namely, that they are standard official compounds, recognized as such and so prescribed largely by the medical profession, prepared with exceptional skill and care from the best and purest ingredients, in conformity to formulas of well-known and highly-approved merit.

For years the AMERICAN ANALYST has been casting its lime-light on the thousand and one medicines placed before the public for the healing of their innumerable ailments, but among all the Sarsaparillas Ayer's alone has stood the searching test. So we do not wonder that the World's Fair officials allowed it to be placed on exhibition; indeed, we should have been astonished had they not done so, in view of the fact that the directors of the Columbian Exposition of '93 were determined to render ample justice to every manufacture worthy of representation and encouragement.

STATE OF OHIO, CITY OF TOLEDO, ss.  
LUCAS COUNTY.

Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the city of Toledo, county and State aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this sixth day of December, A. D. 1886.

SEAL

A. W. GLEASON,  
Notary Public.

Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.

Sold by druggists, 75c.

There are people who like to take up their cross only when they are sure that others will see it.

## Fine Table Wines

From our Celebrated Orleans Vineyard.

*Grand Pannathy & Co.*  
Producers of the  
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### GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.

Cabernet Blend, the richest and finest of Table Clarets. O V Chablis, possessed of all the delicate pungency of its French counterpart.

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The Chateau d'Orleans and O V Chablis are sold in glass only.

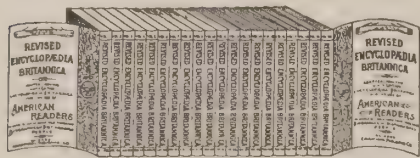


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Please deliver to me the entire set of 20 volumes of Revised Encyclopedia Britannica, as above described, together with your Dime Savings Bank, for which I inclose One Dollar, and further agree to remit 10 Cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

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## THE NATIONAL DRUGGIST.

This old established and ably conducted journal has made an important change in ownership, which will tend to bring to it far greater opportunities for utility. Dr. Frank L. James, Ph.D., M.D., has bought it and all the franchises of the Druggist Publishing Company. This is only the second time it has changed hands and we feel sure that its present owner will never part with it until he goes over to the silent majority. Hav-

ing been its editor for six years, the *National Druggist* has become as precious to Dr. James as a child would have been (we believe the doctor is a bachelor). We have always looked upon this contemporary as a favored exchange. In watching its columns for clippings, of which it has furnished us a never failing supply, we have become well acquainted with it and have learned to recognize it as the druggists' journal, which, while it avoided pedantry, never descended to the other extreme of being merely a trade paper, and in this direction it has ever been far superior to any of its competitors. Long may it reap the success it so richly deserves!

## MEAT INSPECTION.

AMERICAN CONSUMERS TO HAVE THE BENEFITS  
EXTENDED TO FOREIGNERS.

The purpose of Secretary Morton's recent order regarding meat inspection, which goes into effect Oct. 1, is to afford American consumers of hog and cattle products some of the benefits extended to foreigners by the inspection system at our expense. The meat inspection law was passed principally to make a market for our products in France and Germany by giving the government stamp of purity and freedom from disease. The law specifically required that like inspection should be made of products for interstate commerce, but this provision has not been enforced heretofore, because of the lack of a sufficient appropriation.

Secretary Morton discovered, soon after entering office, that it was the custom at some packing establishments to throw aside the hog carcasses which were condemned by the government inspectors as unfit for export and use them for the American trade. Strong opponent of government interference as the secretary is, this did not fit his idea of what was just to American consumers, and he has issued a general notice to the owners and managers of abattoirs and packing houses that hereafter carcasses for interstate trade will be tagged and marked the same as those for export.

The microscopic examinations will not be required, as they are not considered essential, except for the purpose of meeting foreign inspection laws; but examination, both before and after slaughter, will be made of all hogs at houses where inspection is established.

The secretary has not the means to enforce the inspection everywhere, but in future no distinction will be made in tagging and marking between carcasses for the export trade and for interstate commerce at packing establishments where inspection is in vogue at all. In this way it is hoped that the inspected products will get the best footing in the American market, and will bring a sufficient price to justify transferring the cost of inspection from the United States treasury to the packers.

How thorough these inspections are may be judged from the following supplementary instructions issued by the Department to the various inspectors of the Bureau of Animal Industry:

All animals found on either ante or post-mortem examination to be affected as follows are to be condemned and the carcass thereof stamped with the "condemnation" stamp supplied by the Department, and inspectors will see that said carcasses are placed in the rendering tanks of the abattoirs:

- 1st.—Hog cholera.
- 2d.—Swine plague.
- 3d.—Charbon or anthrax.
- 4th.—Malignant epizootic catarrh.

5th.—Pyæmia and septicaemia.

6th.—Mange or scab in advanced stages.

7th.—Advanced stages of actinomycosis or lumpy-jaw.

8th.—Inflammation of the lungs or of the intestines.

9th.—Texas fever.

10th.—Extensive or generalized tuberculosis.

11th.—Animals in an advanced state of pregnancy or which have recently given birth to young.

12th.—Any disease or injury causing elevation of temperature or affecting the system of the animal to a degree which would make the flesh unfit for human food.

Any organ or part of a carcass which is badly bruised or affected by tuberculosis, actinomycosis, abscess, suppurating sore or tape worm cysts should be condemned.

## HORSFORD'S ACID PHOSPHATE

The best tonic known, furnishing sustenance to both brain and body. A prominent physician of Buffalo, N. Y., says of it: "I have severe headaches, and it relieves them. I am fond of the pleasures of the table, and as a consequence of my indulgence there, I have to pay the penalty. It divides penalty with me. Indeed it is an indispensable article to me."

Nearly every church has two or three members who think they have put the Lord under obligations to them.



## People Who Weigh and Compare

Know and get the best. Cottolene, the new vegetable shortening, has won a wide and wonderful popularity. At its introduction it was submitted to expert chemists, prominent physicians and famous cooks. All of these pronounced

# Cottolene

a natural, healthful and acceptable food-product, better than lard for every cooking purpose.

The success of Cottolene is now a matter of history. Will you share in the better food and better health for which it stands, by using it in your home?

Avoid imitations—countless—worthless. Stick to COTTOLENE.

Sold in 3 and 5 pound pails.



Made only by

**N.K. FAIRBANK & CO.,**  
**CHICAGO,**

St. Louis, Montreal, New York,  
Boston, Philadelphia,  
San Francisco, &c.



## BUSINESS NOTES.

## A PURE PEPPER SAUCE.

A correspondent of the Chicago *American Trade Journal*, writing of pure food products, and the results of tests made in the interests of retail dealers and their patrons, says: "Considering the widespread adulteration of food products, it is a pleasure, indeed, to be able to bestow unstinted praise upon the Tabasco pepper sauce of E. McIlhenny's Son, and to commend it to the trade and public as being thoroughly pure and high grade in all respects. As in all cases affecting the food supply, a special investigation was made in conformity with our usual methods and the result has been eminently creditable to this product, for its purity is established beyond question by severest tests of a chemical laboratory, unusually well equipped, and moreover our test kitchen demonstrates its highest excellence in all essential features.

"The samples tested were purchased in open market, being identical with goods supplied consumers, and the intelligent reader will readily discriminate between such real test and the paid analysis of so-called "experts" who furnish reports to suit the manufacturer patronizing them. This paper recognizes no interests save those of the dealers who prefer to handle pure goods and the public which seeks protection from adulterated and dangerous food products.

"Possessing unexcelled facilities for arriving at the truth, we test everything that is advertised, reporting just what we find. In this case the result shows that better or purer goods are not to be found in the market. They are such as the honest retailer can handle and recommend to his trade with perfect confidence in their superior worth and the public can use with entire safety and satisfaction. They are absolutely pure and beyond adverse criticism. Exhibits of this high grade product may be found in the agricultural department of the World's Fair (section 24, column H) also in the Louisiana building, and nothing in the line of food supply attracts greater interest. That highest honors will be awarded for superior excellence goes without saying, for Tabasco pepper sauce is at once the most unique and welcome addition to the table that this era of

development in that line has to show. It must be considered as a staple, for eventually it will find its way into every household. It is now a *sine qua non* where highest tastes are to be consulted. Nothing else takes its place or ever can take its place."

## A FAMILY LAXATIVE.

Physicians are not inclined to recommend self-medication to the laity. Yet there is one need which they are almost unable to supply. We refer to the "family laxative." The family physician is able to prescribe for the most complicated and obscure of maladies and yet is often puzzled to know just what to give when asked for a remedy which can be kept in the house for family use as a laxative, that shall be effective, free from danger, and not unpleasant to take. When absent on our summer vacation we were asked by four different parties, representing as many families, what we thought of the "Syrup of Figs." Not one word did we volunteer on the subject, and we were somewhat surprised to find that there was this small token of the very general use of that preparation. These parties said they derived more benefit from it and found it more pleasant to take than anything of the kind they had ever used. The simple question with them was, is it a dangerous compound? We informed them that its active ingredient was a preparation of senna, and that it was entirely free from danger. With this assurance they volunteered the information that they should continue to keep it in the house.

The therapeutical properties of senna are so well known that comment on this seems unnecessary. It might be well to notice, however, that Bartholow says it is "a very safe and serviceable cathartic," and that it is "highly prized as a remedy for constipation." He also makes the important observation that its use "is not followed by intestinal torpor and constipation."

The simple truth of the matter is, we have altogether too few preparations which we can recommend to our families as effective laxatives. But the California Fig Syrup Company has one of the most desirable combinations for this purpose with which we are familiar. The Fig Syrup Company gives to the profession the composition

of this preparation, therefore there is no secret about it; the persons who use this laxative speak in the highest terms about it; and we are pleased to notice that a large number of physicians are prescribing it.

Viewed from the narrowest and most selfish stand-point the physician will lose nothing by recommending such a preparation as Syrup of Figs to his patients; while viewed from the highest stand-point of doing the best possible by those who place themselves in our care, we would say the profession cannot do better than give their indorsement to such a preparation.

THE QUARTERLY ILLUSTRATOR is the title of a very neat quarterly devoted to the reproduction of the best illustrations of current literature and works of art of the day. It is well printed on good paper, and so far as current art work is concerned it is what a literary digest is to current literature. It is published by Harry C. Jones, the photo-electrotyper, 92 and 94 Fifth avenue, New York.

A GOOD ADVERTISING AGENCY.—Everybody who has heard of Lord & Thomas' great Chicago advertising agency knows their motto—"Advertise Judiciously." Many are the novel ways in which they impress these two words upon the public. Their latest plan is to distribute thousands of rules for measuring advertising space which bear this legend and the compliments of the firm. Any general advertiser can secure one of these convenient little articles by writing for it.

## SWIFT'S

CHOICE

## CHICAGO DRESSED BEEF

AND

## MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.

ESTABLISHED 1823.

ALEX. YOUNG CO., LIMITED,

DISTILLERS OF

Y.P.M. WHISKIES

DISTILLERY, - Nos. 408, 410, 412 and 414 South St.

MALT HOUSE, Nos. 416, 418, 420, 422 and 424 South St.

STORE, - - - - - No. 700 Passyunk Ave.

PHILADELPHIA, PA.

New York Office, - - - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL &amp; CONDIT and PARK &amp; TILFORD.



## GERMAN PHILANTHROPY.

## CITY EATING HOUSES.

To minimize begging and to remove the shame that no man feels more than the honest poor of accepting food in charity, cities in Germany have established eating houses where substantial foods are sold very cheap. I have before me the report of such an establishment in Chemnitz for the fiscal year ended June 30, 1893. Not content with the report itself, I visited the place unaccompanied by anyone and found nothing to condemn, but very much to recommend.

The food is substantial. To a hard-working man with an appetite sharpened by exercise the dinner is excellent. The meats, vegetables, etc., are properly cleaned and prepared before they are cooked. Everything is kept clean and smells sweet and wholesome. The people, who look hearty and healthful, gather in large rooms on benches placed by long tables. Besides the dinner, or midday meal, supper is served to those who wish it. Inasmuch as the dinner is for the most part enjoyed by those men whose wives work or by men and women who are far from their homes and by those who prepare their own evening meal, the suppers of the city eating house play a very small part in the annual account. At these suppers, however, one can get pickled herrings with potatoes for 3½ cents each

person; salt herrings and potatoes, 3 cents; potatoes with curds or buttermilk, 2½ cents; warm beer, 2½ cents per cup; different kinds of soup, 2½ cents for three-quarters of a liter (very nearly a quart); coffee, 1½ cents per cup (a little over half a pint); bread, of which there are two kinds—the so-called black or rye bread and wheat bread—1½ cents and ½ cent for a portion.

There were sold 435,760 dinners. At 33,294 of these bread was bought for 1½ cents a portion. The year's expenditures were 65,367.16 marks (\$15,557.28), the income 73,540.67 marks (\$17,501.68), leaving a balance in favor of the city of 8,173.51 marks (\$1,944.40.) There were consumed 17,982 pounds of beef, 4,734 pounds of pork and pickled meats; sausage, 14,716 pounds; bologna sausage, 17,567 pounds; of lard, suet, ham, smoked meats and corned beef, 7,161 pounds; steaks (beef and veal), 37½ pounds; potatoes, 198,715 pounds; vermicelli, 6,470 pounds; butter, 642 pounds; sugar, 275 pounds; peas, 20,079 pounds; beans, 18,911 pounds; lentils, 18,988 pounds; rice, 7,808 pounds; barley, 6,407 pounds; millet, 7,300 pounds; carrots, 36 bunches; grit meal, 852 pounds; roasted meal, pea meal, and bread crumbs, 6,873 pounds; potato meal, 5,184 pounds; flour (wheat meal), 3,904 pounds; sauerkraut, 2,257 pounds; cabbage, 1,026 heads of average size; turnips and radishes, 220 heads; celery,

2,040 bunches; fruit and cranberries, 2,780 pounds; bread, 23,820 pounds; stale bread for \$18.33; broken bread from the baker shops, 170 pounds; eggs, 4,620; green salad (lettuce), 1,590 bunches; cucumbers, large ones, from half a pound each to two pounds, 930; spinach, 150 pecks; fresh peas (in pods), 4 bushels; apples, 7 bushels; plums, 2 bushels.

These dinners cost never more than 10 cents. They do away with the death and dyspepsia dealing dinner pail. They blot out the shame of begging. They are nutritious and wholesome. Besides, they are self-supporting.

J. C. MONAGHAN,

Consul.

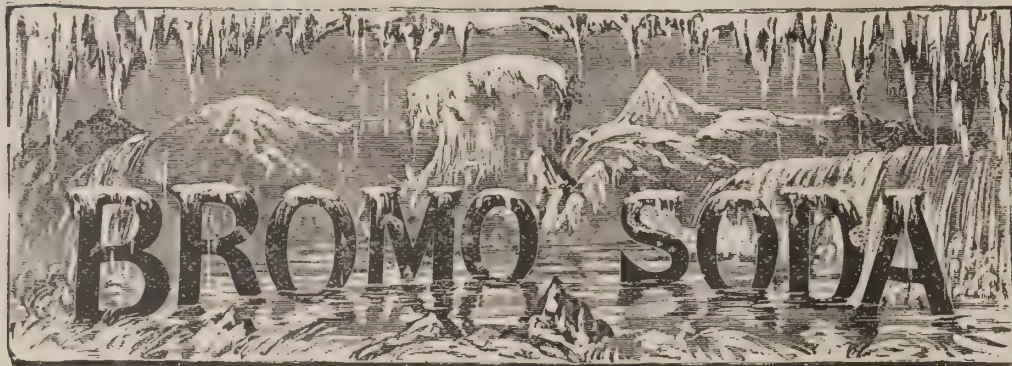
Chemnitz, August 14, 1893.

Breaking the Ice. Scene—Public drawing-room of Hotel in the Engadine. The Hon. Mrs. Snobington (to fair stranger)—“English people are so unsociable, and never speak to each other without an introduction. I always make a point of being friendly with people staying at the same hotel. One need never know them afterwards!” —Punch.

FOR THE SPEEDY RELIEF OF

## NERVOUS HEADACHE AND BRAIN FATIGUE

WARNER &amp; CO.'S EFFERVESCING



Useful in Nervous Headache, Sleeplessness, Excessive Study, Over Brainwork, Nervous Debility, Mania, etc.

DOSE.—A heaping teaspoonful in half a glass of water, to be repeated once after an interval of thirty minutes, if necessary. Each teaspoonful contains 30 grs. Bromide Sodium and 1 gr. Caffein.

It is claimed by some prominent specialists in nervous diseases that the Sodium Salt is more acceptable to the stomach than the Bromide Potassium. An almost certain relief is given by the administration of this Effervescing Salt. It is also used with advantage in INDIGESTION, DEPRESSION following alcoholic and other excesses, as well as NERVOUS HEADACHE. It affords speedy relief for MENTAL and PHYSICAL EXHAUSTION.

PREPARED ONLY BY

WM. R. WARNER &amp; CO.,

MANUFACTURERS OF SOLUBLE COATED PILLS,  
PHILADELPHIA and NEW YORK.

Registered July 20, 1886.

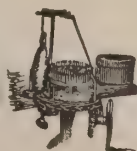
A. LEOFRED,

(GRADUATE OF LAVAL AND MCGILL)

MINING ENGINEER,

Branch Office, Montreal.

Head Office, QUEBEC.



“DON'T KNIT YOUR BROWS”

BUT BUY A

Bickford Family Knitter,

and knit everything needed in your family, and if necessary knit for others and make money. Sold on installments.

A. M. LAWSON, 783 BROADWAY, NEW YORK.

THE GREAT MEDICINAL FOOD

IMPERIAL GRANUM



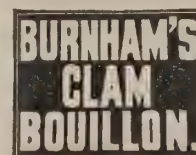
PURE, NOURISHING  
DELICIOUS  
FOOD

IS UNRIVALLED IN  
THE SICK-ROOM  
THE SAFEST FOOD FOR  
INVALIDS  
AND CONVALESCENTS  
FOR NURSING-MOTHERS  
INFANTS AND  
CHILDREN  
FOR DYSPEPTIC DELICATE INFIRM AND  
AGED-PERSONS.

SOLD BY SHIPPING DEPOT  
DRUGGISTS. \* JOHN CARLE & SONS, NEW YORK

FOR  
MEN ONLY.

Men who have worshipped at the shrine of Bacchus until the small hours and need a clear head for business the next day, will find Burnham's Clam Bouillon a paragon. From one to two cups will clear the cobwebs and fancies of a bewildered brain like magic, far more effectually than soda, vichy or bromides. A trial will convince the skeptical. Take half an hour before breakfast. It will tone up the system and you will enjoy your meal without fear of headache later on.



Never Buy Clam Bouillon for the sick, except in Glass Bottles.

Grocers and Druggists  
25c., 50c. and \$1.00  
sizes.



# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY  
**THE ANALYST PUBLISHING CO.**  
H. LASSING, M. D., Editor,  
No. 19 Park Place, New York

NOVEMBER 15, 1893.

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### ARE THEY BOGUS BRANDS?

Among the brands of canned vegetables adversely reported upon by the chemists of the Department of Agriculture were the following:

G. W. Hunt & Co., Baltimore, Md.  
J. T. Cox, Bridgeton, N. J.  
C. Lewis & Co., Boston, Mass.  
C. A. McGaw, Perryman, Md.  
Mound City Preserving Company, St. Louis, Mo.  
Pearson Bros., Aberdeen, Md.  
Cicero Canning Company, Chicago, Ill.  
Rene Calbiad, San Francisco, Cal.  
W. L. James, Hagerstown, Md.  
R. Williamson & Co., Baltimore, Md.  
Los Angeles Packing Co., Los Angeles, Cal.  
Thos. Clark & Son, Glenville, Md.  
None of these can be found at the addresses

given, the postmaster does not know them, and the several directories do not contain their names. To say the least, this is strange. That anyone should pack articles of food under an assumed name looks suspicious. The nature of the chemists' report may explain this modesty.

### NOTES AND QUERIES.

We are desirous of making this column of service to our subscribers and wish to have them feel at perfect liberty to ask any question that may occur to them. We will be pleased to take great pains to obtain any information we may not have. If not of general interest we frequently answer these questions by mail.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

Rev. T. J. C.: Can any harm result from the use of cistern (rain) water used in cooking and drinking, pumped through a leaden pipe about twelve feet in length? Would an iron pipe be safer?

A.—Water standing in a lead pipe is apt to become contaminated, also if it is forced through lead. An iron pipe is safest.

R. A. W.: Can cream be condensed?

A.—It cannot. What is generally sold as evaporated or condensed cream is simply condensed milk without the addition of sugar, which has been "processed," that is, heated to a certain degree of temperature to preserve it, and this process destroys its characteristics as milk. So far as this is a misrepresentation to the purchaser, it is a fraud.

B.: What is "brut" as applied to champagne?

A.—"Brut" is a French word meaning raw, untouched. As applied to champagne it means the original blend of grape juice, fermented, with only its own alcohol and carbonic acid gas, without any addition of rock candy syrup, brandy or liquor; in plain English, the natural, undoctored wine.

### ANSWERS BY THE POPULAR SCIENCE MONTHLY.

Is there any simple way of measuring the height of an inaccessible object, such as a tall tree or building?

Answer.—If it is so situated as to cast a well defined shadow, take a stick of known length, set it upright and measure the length of its shadow. Then as the length of the shadow of the stick is to the height of the stick, so is the length of the shadow of the tree to the height of the tree.

Is it true that articulate words can be transmitted from one point to another by means of a ray of light?

Answer.—This has been accomplished for short distances—a few hundred feet for instance—and a photophone, as it is called, is now on exhibition in the Electrical building at Chicago. It is due to the fact that the varying intensity of the light

falling upon a piece of selenium, an element resembling sulphur, causes a variation in its conductivity for electricity. The words spoken at one station cause a diaphragm to vibrate. A mirror attached to the diaphragm reflects a ray of light upon a piece of selenium at the receiving station, which is placed in an electric circuit with an ordinary telephone. The vibrations of the transmitting diaphragm cause variations in the intensity of the light reflected by the mirror upon the selenium. This causes its electrical conductivity to vary in such a way that the spoken words are reproduced in the telephone. The photophone is the invention of Professor Bell, and although a most marvelous instrument has not yet been put to any practical use.

### ADULTERATION.

#### ADULTERATION OF OILS.

The chief adulterants of linseed oil and of boiled oil are cottonseed oil, resin oil, and linoleic acid. It has been shown that cottonseed, which is to some extent a drying oil, can act as such when mixed with linseed, but that when added to olive oil, it behaves as a non-drying oil. In fact, its behavior is anomalous, and of such a character that it greatly facilitates its extensive use as an adulterating material for the more expensive oils. A linseed oil of high repute has been found to contain a considerable quantity of what appears to be cottonseed oil, although sold as linseed, and this has been converted into drying oil; but had pure linseed oil been operated upon by the same process, the resulting product would have possessed much more satisfactory properties. Linseed oil has been known to be adulterated with resin oil, a deleterious adulterant, but one which may be more readily detected than cottonseed oil. Resin is added to boiled oil to hasten its drying; this also is an injurious substance.

### HOUSEHOLD.

#### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### BEEFSTEAK WITH ONIONS.

A sirloin cut is best, not cut too thick. Fry in butter, and cover on a platter until wanted. Cut onions into thin slices, and fry in the gravy from the steak. Season, and pour over the steak, serving at once.

#### CHIPPED BEEF.

Cook in enough water to cover, just a few moments, to draw out the salt. Drain well, fry in butter, adding milk afterward, to cover it, and thicken to a cream with flour rubbed to a paste, with a little milk. Serve on buttered toasted bread, pouring all over the toast.

#### MINCED BEEF ON TOAST.

Chop beef fine, and stew in a little water, seasoning with butter, salt and pepper when first



put on the fire. Serve on buttered toast. This may be made of the remains of cold meat, as well as from the fresh uncooked meat.

#### SOUSE OF PIG'S FEET.

Carefully clean the feet, and place over the fire in enough water to cover, and boil until the meat will come from the bones, but not to pieces. Take out on a skimmer and put in a stone jar, taking out the large bones. Pour over the meat the following: One quart of vinegar (to four good-sized feet), four bay leaves, a few cloves, a little stick cinnamon, one-half teacupful of salt, two teaspoonfuls of pepper, and let them simmer very slowly one hour. Add one quart of the water the meat was boiled in, if the vinegar is pretty strong. If not so strong do not add so much water. Strain the vinegar well, and pour over the meat, helping it through the meat with a knife and fork until it is well mixed. Set in a cool place. It can be used in two days.

#### STEWED LIVER OR KIDNEY.

Wash the liver in salted water, and dry well. Fry about two minutes in hot fat, and put the pieces into a stew pan, adding a little water, half a lemon sliced, a pinch of spices (cinnamon, cloves and nutmeg), salt and pepper, and stew slowly twenty minutes. Thicken the juices a little as for gravy, and serve. Do not have the liver in too large pieces.

#### FILLED BEEFSTEAK.

Have a round of steak cut one inch thick. Prepare stuffing as for fowls, and spread thickly over the meat. Roll up and tie well with common twine. Place it in a kettle and stew with a very little water. Needs frequent turning, and should cook at least two hours. Remove when done to a platter, taking off the string before serving. Make a gravy of the juices in the kettle and pour around the steak.

#### VEAL AND HAM.

Fry the ham first, then the veal in the fat from the ham. This will season the veal delightfully. Make a gravy, and serve either with the meat or in a gravy boat.

#### BOILED HAM.

Cover the ham with cold water and boil fifteen minutes to the pound; when half done add one small cup of brown sugar and finish boiling. Do not cut for several hours.

#### MINT SAUCE (FOR BOILED MUTTON).

Use only the freshest part of the mint. Cut with a silver knife finely in an earthen bowl. Do not use the wood, as the oil is lost in the bowl. Stir in one tablespoonful of sugar and one-half pint of scalding hot vinegar. Cover tightly for two or three minutes, and serve.

#### YORKSHIRE PUDDING FOR ROAST BEEF.

One egg, one-half cup of milk, one-half cup of water, a little salt and flour to stiffen, as for pancakes. Roast the meat on a rack, and pour the mixture into the pan to bake. It will do in twenty minutes.

#### BOSTON BROWN BREAD.

Two cupfuls Indian-meal, even; one cupful rye-meal; one cupful flour; one quart (small) sweet milk; one and a half cupfuls molasses; pinch of salt; one teaspoonful soda dissolved in a teaspoonful of water; two teaspoonfuls cream-tartar—or, if baking powder is preferred, two heaping teaspoonfuls. Steam in a covered tin four hours. The water must be boiling when the tin is put in the pot, and must not be allowed to stop boiling during the four hours. This is sure to be good if the water is boiling.

#### MILTON MUFFINS.

Take one egg, one pint of milk, one pint of

flour, and pinch of salt. Beat egg light, and part of the milk, all the flour; then add rest of milk. Bake twenty minutes in buttered tins. Eat hot.

#### RICE MUFFINS.

One cup cold boiled rice, one pint of flour, two eggs; one quart of milk, or enough to make thin batter; one tablespoonful of lard or butter; one teaspoonful of salt. Beat hard and bake quickly.

#### CORNMEAL CRUMPETS.

One quart Indian meal, one quart boiled milk, four tablespoonfuls yeast, two tablespoonfuls white sugar, two heaping tablespoonfuls lard or butter, or half and half; one saltspoonful salt. Scald the meal with the boiling milk, and let it stand until lukewarm. Then stir in the sugar, yeast, and salt, and let rise five hours. Add the melted shortening, beat well, put in greased muffin-rings, set these near the fire for fifteen minutes, and bake. Half an hour in a quick oven ought to cook them. Never cut open a muffin or crumpet of any kind, least of all one made of Indian meal. Pass the knife lightly around it to pierce the crust, then break open with the fingers.

#### BOSTON CREAM CAKES.

Half pound butter, three fourths pound flour, eight eggs, one pint of water. Stir the butter into the water, which should be warm; set it on the fire in a pan and let it boil one minute, take it off and let it cool; beat the eggs light and stir into this cooled paste; bake in small buttered pans ten minutes, filling them half full.

#### UNIVERSAL SHORTCAKE.

Two quarts flour, two tablespoonfuls lard, three tablespoonfuls butter, two and one-half cups sour or butter milk. "Loppered" cream is still better; two eggs well beaten, one teaspoonful soda, dissolved in hot water; one teaspoonful salt. Chop up the shortening in the salted flour, as for pastry. Add the eggs and soda to the milk; put all together, handling as little as may be. Roll lightly and quickly into two sheets, the one intended for the upper crust fully half an inch thick, the lower less than this. Lay the latter smoothly in a well-greased baking pan, strew it thickly with raspberries, blackberries, or, what is better yet, huckleberries; sprinkle four or five tablespoonfuls of sugar over these, cover with the thicker crust, and bake from twenty to twenty-five minutes until nicely browned but not dried. Eat hot for breakfast with butter and powdered sugar. If sweet milk be used, add two teaspoonfuls cream tartar sifted into the dry flour. It should be mixed as soft as can be rolled. The shortcake is very nice made with the common "black-caps" or wild raspberries.

#### JELLY CAKE.

Three eggs, one cup sugar, butter the size of an egg, one cup flour, one teaspoonful cream tartar, sifted in the flour; one-half teaspoonful soda, dissolved in tablespoonful milk. Bake in jelly-cake tins, and spread, when cold, with fruit jelly. This is, although so simple and inexpensive, an admirable foundation for the various kinds of jelly, cream and meringue cake, which are always popular. It seldom fails, and when well mixed and baked, is very fine.

#### SWEETBREADS.

The true sweetbread, regarded by gourmets as a great delicacy, is the thymus gland of the calf. As a rule, this is found only in the fetus and young calf, under the lower surface of the trachea, "partly without and partly within the chest, between the layers of the anterior medias-

tinum." It is occasionally persistent, but usually disappears within a few months after birth. It is elongated, of a grayish-white color, irregular—that is, lobulated on its surface, and much more resembling a salivary gland and the pancreas than the thyroid. It is commonly known among butchers as "throatbread," and is rarely found except in animals supplying young veal or lamb. The pancreas is vulgarly termed the "gutbread" or "belly sweetbread," and is the article which would be supplied in a great majority of cases by butchers asked for sweetbread. The thyroid is situated at the upper part of the neck, not at its root, and is not regarded as a favorite article of diet. Though the lobes are closer than in man, they are spoken of as two, each being named a "kernel" or "gland." As far as we can learn, they are not ordinarily included among the sweetbreads. As compared with the thymus and pancreas the thyroid is very small, regular on the surface, ovoid in shape, reddish-brown in color, situated at the upper part, and not at the root of the neck. The thyroid is sometimes confused by butchers with the lymphatic glands of the neck. Its dark color and characteristic shape—convex externally while somewhat concave and flattened where it rests against the trachea—should prevent this mistake. While thymus and pancreas are valued highly, the market value of the thyroid is inconsiderable, and until its association with myxedema it was rarely asked for.—*British Medical Journal*.

#### RECEIPTS FOR BALL BLUING.

Cooley is authority for the following:

1. A mixture of powdered starch with sufficient indigo in impalpable powder to give the necessary color, made into a stiff dough with starch paste, and then formed into lumps or cakes of the desired size and shape, and dried.
2. As the last but substituting cerulea sulphate of potassium or carmine blue for the powdered indigo.
3. As No 1, but substituting whiting for the powdered starch and weak size, or a decoction of Irish moss for the starch paste.
4. Here is a formula published in the *Era* last year as a "disinfective laundry blue." Mix together 16 parts of Prussian blue, 2 parts of carbolic acid, 1 part of borax, and 1 part of gum arabic into a stiff dough. Roll it out into balls as large as hazel nuts, and coat them with gelatine or gum, to prevent the carbolic acid from escaping.

#### CLEANING WALL PAPER.

It often happens that it is required to clean wall paper that has become soiled by age or that is marked with grease spots. Place a cotton cloth over a broom and commence by sweeping down the surface of the wall from top to bottom; this will remove all the dust that clings to the surface. Then take a stale loaf, cut off the crust at one end and wipe the paper with the square end. Do not work the bread backwards and forwards but draw regular strokes in one direction only. When the loaf is dirty cut off a thin slice and proceed as before. Another plan is to use bran. This is best applied by means of a large sponge, and is very effectual in cleaning the surface of soiled paper. Place a cloth on the floor to catch the bran as it falls and do not use the same bran twice. There is on the market a patent preparation for cleaning wall paper, which consists of plaster of paris added to dough in the proportion of about 1 part of the former to 2 parts of the latter. The plaster of paris makes



the dough fibrous, and an excellent cleaning material is the result. To remove grease spots from paper use a hot flatiron placed on a sheet of blotting paper against the spot; use the hot iron several times until the grease spot disappears, but if this is not effectual sponge the spot with a little washed sulphuric ether, which may be obtained at any chemist's. As this material is very inflammable it should not be used at night time.

#### CLEANING CARPETS.

After thoroughly cleaning the carpet from dust by beating and brushing, hard sawdust is moistened with benzine and the carpet rubbed with it, until the sawdust becomes no longer soiled. Large carpets are 1 cm. (nearly  $\frac{1}{2}$  inch) thick covered with sawdust sufficiently wetted with benzine to be easy to distribute over the fabric; then the sawdust is rolled down with a roller similar to a garden roller, brushed off, and the process repeated with fresh sawdust and benzine, until the sawdust comes off clean. Remaining stains must then be separately removed. Large carpets may also be cleaned in the so-called wet way in the same manner, i. e., wetting the sawdust with a solution of soda instead of benzine. Care must in all cases be taken, that the back of the carpet is not wetted through by too hard pressure of the roller.

For small carpets (rugs) it is recommended, to first shake and brush them clean from dust, then mix a bucketful (10 lit.) of rain water with eight tablespoonfuls of spirit of sal ammoniac and five tablespoonfuls alcohol, and gently rub the rug off with the mixture by means of a clean rag or sponge, which must not be applied very hard. Rugs are also renovated, after shaking, by passing them over a short-cropped moist grass-plot, or, in winter, by several times sweeping them off with clean snow.—*Textile Colorist*.

#### "GIVING THE QUILT."

The Queen, says *Hearth and Home*, is an expert and indefatigable knitter. During the Egyptian campaign she and the ladies of the household employed themselves in knitting quilts, which, at the end of the war, were sent to the Netley Hospital for the use of the wounded. One of these, made entirely by her Majesty, and bearing an elaborate V. R. in the centre, was the coverlet *par excellence* of the institution, and in universal demand for a time. In assessing the claims of the candidates for the honor of sleeping under it, the medical staff naturally gave the precedence to the most severely wounded, and as the most severely wounded was the one most likely to die, very soon, alas! an evil omen attached itself to the distinction, the climax of which was reached one night, when a poor soldier, feeling someone touching his bedclothes, woke up with the perspiration pouring down his face, and cried out, "Oh, sir, do anything you like with me, but for God's sake don't give me the quilt!"

#### WHITE STOCKINGS.

The so long heralded white stockings seem gaining in favor—that is, in elegant open-worked white silk with insertings or other dainty ornamentation. These stockings are worn with white leather shoes, decorated with rich silver buckles; or with the embossed silver initial of the wearer inserted in a white satin or leather bow. It is said that in London white stockings for morning wear are worn with tan shoes; for afternoons, white thread hose embroidered with

currants, berries, etc., are worn with half-high white leather shoes; while for evening, embroidered stockings to match the gown accompany white kid shoes.

#### NOVELTIES IN UNDERWEAR.

An importation from England presents an entirely new idea in underwear. It is called the "Alaska Seal" garment. From a cursory glance one would suppose the garment bulky and uncomfortable. On the contrary, it is as light as a super-weight natural wool garment, many times warmer, and as soft to the touch as sealskin. The fabric is rib-knitted and consists of wool with long staple hair carded in. It washes like any natural wool garment, and can be had in colors.

Another novelty is the "Cape of Health" underwear, manufactured from pure silk and wool. It is of a curly, porous texture and affords greater evaporation than the ordinary weave. It is non-irritating and being elastic adheres loosely to the body. It is manufactured in all sizes and colors in vests and drawers for both sexes.

#### DETECTION OF LEAKS IN DRAIN PIPES.

Another piece of chemical knowledge worth noting is the action of sulphide of hydrogen in the presence of a lead salt. If a piece of blotting paper be soaked with a solution of sugar of lead and be held near or over the opening of a bottle of sulphide of hydrogen the blotting paper will at once turn dark brown or black. That is, a chemical change takes place and the sulphur of the sulphide of hydrogen unites with the lead of the sugar of lead and a sulphide of lead is the result which is black or dark brown. The practical application of this is the detection of leaks in drain pipes. Almost all foul odors from cesspools and drains contain the sulphide of hydrogen, and if a leak of these odors is suspected or noticed, a piece of blotting paper soaked with a solution of sugar of lead and held at the joints of the pipes or where the odor is suspected will at once turn brown or black if there is an escape of gas. Often at summer resorts some of the back rooms suggest an odor not too pleasant and a bad drain or leaky cesspool is suggested by a faint smell. A piece of blotting paper treated as directed above and left to hang in the room will detect a slight amount of this poisonous gas and prove conclusively that the room is unfit to be occupied.—*The Popular Health Magazine*.

EGGS.—An egg is indigestible if boiled until the albumen is solidly coagulated. It is quite easy of digestion if eaten raw, soft boiled, or boiled several hours until it becomes mealy. The ordinary hard-boiled egg is usually swallowed in lumps which expose but little of their surface to the action of the gastric juice. Hence, its digestion is very slow, indeed.

Grease and smoke marks on woodwork may be removed preparatory to painting by washing with a solution of saltpetre in water or with very thin lime whitewash. Soapsuds may also be used if thoroughly rinsed with clean water.

PAPER STOCKINGS.—Paper stockings are a new German invention. A Berlin shoe trade journal says that the stockings are made of a specially-prepared impregnated paper stock, which, it is claimed, has an extraordinary effect on perspiring feet. The moisture is absorbed by the paper

as rapidly as it is formed, and the feet remain dry and warm, while the constant temperature maintained in the shoes is said to be a great preventive of cold.

SABBATH.—Probably no one has ever doubted the wisdom of the decree that man should rest on every seventh day, although the reasons therefor may not have been made clear. Experiments conducted at Munich have brought out one of them. It was demonstrated that the system loses oxygen to the amount of one ounce as the result of a hard day's work. It was found that the laborer does not recover during the night the oxygen he has overdrawn, but that an occasional day of rest, coming just at the right time, will serve completely to restore the equilibrium and make him as good as new. It was also shown that the amount of exhaustion of the oxygen of the system—in other words, of the life power—by six days of labor, is the amount that can be supplied by a day of complete rest.

#### SALT AS A SWEETENER OF SUGAR.

Sugar and salt are sometimes held to be incompatible or antagonistic in their action on the organs of taste, but it is a common social experience that the addition of the slightest dash of salt adds flavor to sweet coffee, and sugar-cured hams have their own reputation, while meat and vegetables cooked "sour and sweet" are a favorite delicacy in Germany. Prof. Zuntz, at the Physiological Society of Berlin, definitely explained the making of sugar sweeter by the addition of salt. From his experiments he finds that if to a solution of sugar there be added a slight amount of salt and water, so weak that it excites no saline taste, the result is extra sweetening of the sugared water. The weakest of quinine solution is said also to produce similar results. The explanation given of the above seeming incongruity is that the ever so feeble saltiness or bitterness imparts an increased sensibility to the sensation of taste by the simultaneous stimuli, and hence an appreciation of additional sweetness.—*British Medical Journal*.

#### PRETZEL.

It is remarkable that the superior merits of pretzels are just beginning to be recognized in this country. For a long time they have been a standard article of food in Germany, and no country in the world ranks higher than Germany in the mental power, the physical strength and the thrifty life of its inhabitants. In the United States, especially, pretzels have been undervalued and their uses misunderstood. Because of their cheapness they have been considered crude, and because of their being introduced by the humbler classes of Germans in connection with saloons, they have been considered coarse. But now even the luxurious classes here are taking notice of pretzels, and the careful students of dietetics offer willing praises of their healthful qualities. Pretzels must be baked properly. The best made are baked on wire pans over an open fire; the effects of the process are similar to the effects of toasting bread or broiling steaks. Pretzels are salty in taste, easily digestible and extremely nutritious, and their keeping qualities far exceed any variety of crackers.—*Boston Transcript*.

An Iowa publisher acknowledges the receipt of an egg which "was laid on our table by Rev. Mr. Smith." Mr. Smith seems to be a layman as well as a minister.



## INVENTIONS, SCIENCE, ETC.

### INKS FOR RECORDS AND IMPORTANT DOCUMENTS.

We find the following in the *Papier Zeitung* abstracted from the *Arbeiten aus dem Kaiserliche Gesundheitsamte* (Studies from the Imperial Health Bureau):

The normal inks required to be used as document inks by the Danish government belong to two classes. The first class is an iron and nut-gall ink, which must possess the following properties: It must contain not less than 4 gm. of iron to the liter, and it must stand exposure in an open vessel for not less than fourteen days without throwing down any sediment or becoming moldy; it must resist light, air, water and alcohol.

The test for the iron is made in any of the common ways; that for stability is made by exposing to the light and air 25 ccm. of the filtered ink in a medicine glass of 500 ccm. capacity, the top of which is covered with a paper capsule or other device for keeping out dust. Another portion is exposed in a similar manner, but without the capsule. The latter is to test for mold-resisting power.

An ink of this description is represented by the following formula.

Tannin, pure,	23.4 gm.
Gallic acid, pure, crystallized,	7.7 gm.
Iron sulphate,	30 gm.
Gum acacia,	10 gm.
Carbolic acid,	1 gm.
Hydrochloric acid, sufficient.	

The tannin can be replaced by the commercial tannic acid, but if the latter is used a sufficient quantity thereof must be taken to represent the given amount of absolute tannin. The amount of hydrochloric acid necessary is that which will represent 2.5 gm. of hydrogen chloride. The above figures are for one liter of ink. This ink is tested in the following manner: Writing or drawing is made with it on rag paper, and the document is then exposed for three summer months to the direct action of sunlight. It is then washed with water and afterward with alcohol, and dried. The marks must remain black and legible.

The second class of inks are much inferior. All that is demanded of them is that after a document has been written for eight days it must not yield to either water or alcohol. It is not required to remain longer than three days without deposit when submitted to the action of light and air, as described above for class one, but must not become moldy in less than fourteen days.

Of the copying inks, it is required that they stand the tests for durability, etc., of class one; and, further, that they shall copy well after a document written with them is at least twenty-four hours old. It is further required that they shall not be sticky or gummy, even when not subjected to the copying process.

## HYGIENIC.

### MICROBES ON POST-CARDS.

The latest scare in microbes has been started by Professor Uffelman, of Rostock, who infected a letter with cholera bacilli and put it into a post-bag. When the letter was taken out, twenty-three and one-half hours later, the bacilli were still alive. Bacilli were also found living on post-cards twenty hours after infection. The micro-organisms were found to die rapidly when

placed upon coins. A fly charged with cholera bacilli was afterward placed on some beef. A little later the meat was found to be swarming with bacteria. A finger was infected with cholera bacilli and dried. One hour later the finger was rubbed on some roast meat, and numerous bacilli developed subsequently. The moral of all these experiments is obvious.—*Medical Record*.

### EXCESSES IN ATHLETICS.

#### DRAWBACKS TO OVER-INDULGENCE IN PHYSICAL EXERCISE DURING GROWTH.

It is not at all my intention to blame the physical exercises in which the children of our schools take part nowadays, as it is without doubt to them that we owe the physical building up of a large number of weak and sickly members of both sexes who would otherwise have succumbed prematurely in the struggle for existence; in addition, by these games alone can be acquired skill, assurance and consciousness of strength by those of a more vigorous constitution.

It is excess in such matters that I object to; to avoid falling into one trap it is certainly not desirable to pitch headforemost into another, and this is what we seem to be now doing, as from fear of intellectual overwork we are steadily coming to physical overwork in our different sports. We accomplish nothing else than this in any violent game in which rivalry is brought into play and encouraged. The fact of being unskilful in or unfitted for a game is not only a disappointment for some children but a humiliation. Now, a child does not accept humiliation readily, but makes a desperate attempt to avoid it, rendering himself a victim to physical overwork, which then becomes a danger to be guarded against.

The abuse of exercise in sports during the period of growth has been often pointed out, but was especially brought into evidence in a recent communication to the Association Francaise pour l'Avancement des Sciences, at Besancon, at which different physicians called attention to serious heart troubles occurring in children who, in order to win a race, arrive at the goal exhausted and out of breath, to complaints of the bones caused by a football match, to intestinal disorders due to too much bicyclette riding, and to fever from overwork in hard rowing.

It is during the period of growth that these different accidents are to be feared. The disorders of the circulatory apparatus appear very suddenly and are very intense. They consist usually in an attack of palpitation brought on by over-indulgence in cycling, running or football; they are moderately violent and soon come to an end with rest. If, however, they are not attended to, they become more and more serious and do not stop until the exercise whereby they have been produced is interrupted for a long period. Nose bleeding, which is so common with certain children, is more frequent and lasting after any excessive exercise of this sort.

The abuse of physical exercise is also responsible for certain digestive disorders, as is shown by children who, under the influence of exercise carried out with too much vigor and at an undesirable moment (during the first period of digestion), have their digestion completely upset. Even the nervous system may be badly influenced by the different forms of sports. Headache and insomnia can be attributed in part to overexcitement of the mind, set up in the case of many nervous children either by the expectation of a pleasure or by some disappointment in a matter of amour-propre.

Finally, quite independently of accidents and mishaps, such as fractures, dislocations or contusions, a number of young men who have taken to bicycling with too much ardor show a deformity of the vertebral column on account of the awkward jockey position they assume during races and going up hills.

In spite of all this, exercise is indispensable for children, but it should be permitted in a progressive and methodical way by not allowing them to begin to take part all at once and without restriction in every form of sport.

### THAT CHOLERA WELL AT MECCA.

It is well known that the holy well of Zem-Zem used by the Mahometan pilgrims at Mecca is one of the most dangerous breeding spots of cholera, and no doubt if it were abolished there would be a great decrease of this dreadful scourge. Mr. E. Frankland, writing to the *London Times* on the condition of the waters of that well, says:

"A sample of the water came to me through the India office. It was full of dead microbes and contained, in an equal volume, considerable more animal matter than is found in average London sewage. In addition, it afforded evidence of previous pollution with an amount of such matter at least six times as great as that contained in an equal volume of average London sewage. The water has been again, quite recently, analyzed by Colonel Bonkowski Bey, consulting chemist to his Majesty, the Sultan of Turkey. His results confirm my own analysis. They show that the water is still abominably polluted by excrementitious matter. The surroundings of this well are such as would be likely to impart to the water these dangerous ingredients. Mecca appears to have no sewerage system; all foul matters being buried in the earth within or near the city. Hence the foulness of the water percolating into the well through this mass of corruption. Colonel Bonkowski Bey informs me that Mecca is supplied with water of excellent quality, but, of course, the pilgrims are bound to drink at the holy well. Tens of thousands of pilgrims continue to die of cholera at Mecca and to spread the disease elsewhere; but, so far as I know, no measures have been taken to prevent pollution, and Mecca continues to be a cholera center."

England has the power and could, if it would, put a stop to this source of danger. Why does it hesitate?

AMMONIA AND THE COMPLEXION.—The first symptom of ammonia poisoning among those who work in ammonia factories is a discoloration of the skin of the nose and the forehead. With people who take ammonia into their systems in smaller doses, as with their water or food, in one of the much advertised baking powders, the only effect of the poison that is visible for a time is a general unwholesomeness and sallowness of the complexion.—*Ex*.

### GUM CHEWING AND WEAK BRAINS.

A New York doctor asserts that to his positive knowledge the persistent habit of gum chewing has produced mental weakness in fourteen cases of young girls who are now under medical treatment. It might be a question whether the mental weakness is the result of gum chewing, or the gum chewing the result of intellectual feebleness. Certainly the habit is not one indicative of a high grade of mental development.—*Ex*.



## MEDICAL.

### THE EYE.

#### TO REMOVE SOLID PARTICLES FROM UNDER THE LIDS.

From the lower lid it is sufficient to pull the lid away from the eye, and to wipe the body with a piece of moist paper or the corner of a handkerchief; if it is under the upper lid, grasp the lid firmly between the thumb and finger, lift it from the eyeball, and draw it down over the lower lid, and then allow it to slide slowly back to its natural position. The foreign body will be scraped off on the lashes. The operation may be repeated several times. Or, lift the lid from the eyeball, allow the tears to accumulate beneath the lid, and forcibly blow the nose. Or, place in the eye a few grains of flaxseed, which forming a mucilage will probably bring relief. Or, place across the upper lid the point of a pencil or bodkin and turn the lid back over it; in this way the foreign particle is brought into distinct view and can be readily wiped away.

Lime and Roman cement are very destructive to the eyes if permitted to remain any considerable time. Wash the eyes immediately with water, then with water containing vinegar or lemon juice.

For acids in the eye, wash with water containing a little ammonia or baking soda.

For alkalis wash with water containing vinegar or lemon juice.

### CANCER AND PORK.

It is a humiliating fact that little is known yet as to the most prominent factors in the production of cancer. That a large number of cases occur from local irritation, for instance, cancer of the lips and mouth from smoking tobacco has been demonstrated, but there is a large number of cases where no such cause can be reasonably assigned.

An unusual activity is being manifested abroad, however, at this time by some of the most renowned investigators. A league has been formed in Europe for the purpose of investigating this disease as tuberculosis was investigated, and if possible to require it to give up some of its secrets. That the number of cases is yearly increasing is sadly too true—especially in the United States.

Some startling revelations along this line are already being made and promulgated by those eminent investigators, M. M. Verneuil, of Paris, and Roux, of Lausanne. They are, as the result of observation and research, disposed to regard it as being caused most frequently by the use of pork.

Mr. Verneuil in some former article declared that there was a marked relationship between the abuse of meat food and cancer. In following up this line of thought more closely he was led to conclude that the use of pork was a special source of danger, and said it was well worth considering if this was not the sole cause. He arrived at, and enunciated, the following proposition: "In the course of a long and laborious surgical career it was observed that the Israelites who follow closely the laws of Moses respecting the use of pork, as an article of food, are always refractory to cancer; and that this idea had presented itself afresh in connection with two special cases."

M. Roux gives his experience as strikingly confirmatory of conclusions reached by his renowned colleague.

This is an interesting question and should be looked at without prejudice, and divested of all mercenary or commercial considerations. The position assumed is not illogical. It is well known that certain animal foods result in special diseases or symptoms. It is well known that in many persons shrimps, lobsters and crabs produce urticaria, and that diseased meat produces intestinal and gastric irritation.

It was a common belief among the ancients that pork produced leprosy, and a common belief prevails that the frequency with which leprosy is found in the Bergen district in Norway, is attributable to the fact that fish constitutes almost the entire animal diet of the people. It will be a satisfaction to know that these investigations will not rest at this stage, but will be prosecuted with vigor until the cause of this most alarming and fatal disease has been fully demonstrated.

Science may soon demonstrate that this biblical interdiction of swine flesh intended for the Israelites was not a mistake of Moses, but a wise sanitary measure, and one that would be good for all to follow.—*Bulletin*.

### TREATMENT OF FLESHINESS.

Since the treatment of obesity is a desperately uncertain one, I wish to call attention to a case managed successfully by an exclusively nitrogenous regime and by drinking large quantities of hot water. My readers can, therefore, try this treatment under similar circumstances, since it is rational and free from risk, although it may not always be efficacious.

The case was a man sixty-eight years of age, extremely fat, gouty and suffering from an ulcer of the leg, whose weight Mr. Saville, of London, succeeded in reducing twenty-five kilometres, whereas, at the beginning of the treatment it reached the enormous figure of 133 kilometres. The patient was for four months put on an absolute meat diet, composed of fish and boiled lean meat prepared in different ways according to his taste. Everything else was forbidden, even bread, vegetables and milk, and between meals he was required to drink a goblet of hot water every two hours, making five or six in the day.

After a month of this regime the ulcer of the leg was completely healed and the gouty manifestations had improved. Four months later the patient was allowed a little bread, butter and tea with sugar and milk, and in two or three months more he was able, without showing any tendency to rise above the weight to which he had fallen, to follow a mixed regime, from which potatoes were excluded.

It is almost certain that the greater part of the success in this case is due to the abundant quantity of hot water taken, and this is the most original part of the treatment.

### TUBERCULOSIS.

#### HOW TO AVOID CONTRACTING CONSUMPTION.

Published for Gratuitous Distribution by the Pennsylvania Society for the Prevention of Tuberculosis.

#### TRACT NO. 1.

Tuberculosis, popularly known under the names of consumption, decline, scrofula, marasmus, wasting disease, inanition, lupus and white swelling, is a contagious disease, which means that every new case is produced by exposure to some other case. The knowledge of this fact gives the keynote to personal avoidance of the disease. Fortunately science has demonstrated how a person suffering from tuberculosis can give it to another, and hence we know just what to do to avoid getting it. This knowledge moreover

brings us great consolation, for it takes away all causes for fear and for oppressing the unfortunate victims of the disease. To avoid consumption ourselves we do not have to be unkind to our dear ones who have it, nor to deprive them of the society of their relatives, or in fact of any of the comforts of this life. The contagium of tuberculosis lies entirely and alone in the pus (matter) given off either in the form of spit in consumption, of matter in abscesses and in lupus, or of discharges from the bowels in marasmus and in tuberculosis of the bowels. In short, pus (matter) given off from a tubercular sore, wherever it may be, is the means of giving the disease to somebody else.

This tubercular pus can find its way into a healthy person principally in three ways: First, through the stomach; second, through the lungs; or third, through an open wound. First, through the stomach: When people eat imperfectly cooked tuberculous meat, drink milk from badly diseased tubercular cows, eat food out of the same dishes or with the same eating utensils as consumptives, eat food with unwashed hands after having been in contact with tubercular patients, eat food that has been handled by persons suffering from tuberculosis, put coins, articles of toilet or other small objects that have been handled by persons suffering from tuberculosis into the mouth, use musical instruments or implements which, when in use, are placed to the lips or in the mouth and which have been used by consumptives, kiss upon the lips persons suffering from consumption, swallow tubercular pus in the form of dust which has accumulated in the throat and fauces during the act of respiration. Secondly, through the lungs: When people inhale dried-up tubercular pus in the form of dust. Thirdly, through wounds: When people get tubercular pus into an open cut or an abrasion of the skin.

Of the three ways in which the disease germ gets into the system that by the stomach is the most frequent. There is not so much danger of getting tuberculosis by eating meat and drinking milk that people need be afraid to use these articles. Thorough cooking destroys the bacillus tuberculosis and therefore removes all danger; but even this need not be resorted to in the case of milk when the dairyman is known to be careful and honest. If you do not know your dairyman you had better boil your milk. You can do most towards protecting yourself against tuberculous meat and milk however by exerting your influence to bring about proper government inspection of slaughter houses and dairies. If you are living in the same house with a consumptive be careful not to use the same dishes and eating utensils unless they have been first thoroughly boiled. Above all things do not eat of the delicacies which have been sent to the invalid and which he has eaten of, nor help him sip his wine. When you have been in contact with tubercular patients wash your hands at your earliest convenience, and be sure to wash them carefully before eating. Do not buy any food from a person suffering from tuberculosis, and as a matter of general precaution, have all food which goes on the table raw well washed. Never put coins, articles of toilet or other small objects into your mouth, for they may have been used by a consumptive just before falling into your hands. This is particularly true of money, and when such has been handled the hands ought to be washed before eating. A most prudent habit to form is never to eat without first having carefully washed the hands. Do not use a pipe, wind instrument, such as a flute or horn, or an



instrument or implement which goes to the lips or into the mouth, that has been in use by a consumptive. Do not kiss persons on the mouth who are suffering from tuberculosis of the lungs when the disease has arrived at the stage when they begin to spit. Even with cleanest persons some sputa will adhere to the lips when a handkerchief has been used. When you have for any length of time been in a room with a consumptive, in which perfect sanitary measures are not practiced, do not swallow your spittle until you have had an opportunity to rinse your mouth and throat. If you are compelled to be about a consumptive frequently, endeavor to have him disinfect all tubercular pus immediately upon its being thrown off, for in this way you protect yourself against all danger. Should you not be in a position to see this carried out, avoid as far as possible inhaling dust in the room or upon the premises. Never allow clothing or furniture that has been used by a consumptive, or that has been kept in a house occupied by a consumptive, to come into your house or room until it has been thoroughly disinfected. When you are compelled to change your residence be sure to make inquiry about the house into which you are going to move as to whether or not it has been occupied by a consumptive, and if it has, see that it is thoroughly disinfected before you move into it. The walls of the room which was occupied by the consumptive ought to be scraped and washed with some powerful disinfectant, such as mercury or carbolic acid.

There is a great deal in family and individual predisposition to tuberculosis. If any of your family have died of the disease it is some evidence that you are prone to it, and you ought, as a matter of prudence, to keep away from it as much as possible. Individual predisposition is usually acquired and consists chiefly in a run-down condition or a deformed or improperly developed chest. If you are suffering from dyspepsia do not permit it to run on, but have it remedied at once. Stomach troubles are powerful predisposing causes of tuberculosis. Malnutrition of any kind predisposes to the disease. If you are losing weight, or if you find that your food disagrees with you in any way seek a remedy. Perfectly healthy digestion and assimilation are excellent guarantees against tuberculosis. Don't forget, however, that the excessive use of alcoholic drinks produces indigestion and irritability of the digestive tract, and in this way becomes a prolific predisposing cause of tuberculosis. Loss of rest and worry become predisposing causes by lowering the nerve force of the body and thus interfering with digestion and assimilation. Have regular hours of sleep and avoid worry of all kinds, but do this especially when you are unavoidably exposed to the disease. If you have a deformed or badly developed chest, you need to be especially careful not to expose yourself to tuberculosis. Develop and improve your chest by pulmonary gymnastics. Let your sleeping-room be well ventilated, and spend as much time as possible in the open air. If possible obtain employment which will keep you out of doors.

It has been shown that a non-porous soil predisposes to tuberculosis. If your dwelling place is damp, see that it is properly drained and made dry by means of cement. If you can select your home, choose it on a porous, open soil.

Impress indelibly upon your mind that no new case of tuberculosis can arise without an old one. If you can, therefore, absolutely avoid cases and every source of infection, you are safe whatever predisposing cause you may labor under. With

the present prevalence of the disease, however, no one can avoid every source of infection, and it therefore becomes important that predisposing causes as well as sources of infection should be avoided.

Should you desire to become a member of the Pennsylvania Society for the Prevention of Tuberculosis, you can do so by sending your name and one dollar to the secretary, E. Leslie Gilliams, 727 Walnut street, Philadelphia.

### THE ACTION OF THE EYE.

NIKOLA TESLA.

It can be taken as a fact, which the theory of the action of the eye implies, that for each external impression—that is, for each image produced on the retina, the ends of the visual nerves concerned in the conveyance of the impression to the mind must be under a peculiar stress or in a vibratory state. It now does not seem improbable that, when by the power of thought an image is evoked, a distant reflex action, no matter how weak, is exerted upon certain ends of the visual nerves, and, therefore, upon the retina. Will it ever be within human power to analyze the condition of the retina when disturbed by thought or reflex action, by the help of some optical or other means of such sensitiveness that a clear idea of its state might be gained at any time? If this were possible then the problem of reading one's thoughts with precision, like the character of an open book, might be much easier to solve than many problems belonging to the domain of positive physical science, in the solution of which many if not the majority of scientific men implicitly believe. Helmholtz has shown that the fundi of the eyes are themselves luminous, and he was able to see, in total darkness, the movement of his arm by the light of his own eyes. This is one of the most remarkable experiments recorded in the history of science, and probably only a few men could satisfactorily repeat it, for it is very likely that the luminosity of the eyes is associated with uncommon activity of the brain and great imaginative power. It is fluorescence of the brain action, as it were.

Another fact having a bearing on this subject which has probably been noted by many, since it is stated in popular expressions, but which I cannot recollect to have found chronicled as a positive result of observation, is that at times, when a sudden idea or image presents itself to the intellect, there is a distinct and sometimes painful sensation of luminosity produced in the eye, observable even in broad daylight.

Two facts about the eye must forcibly impress the mind of the physicist, notwithstanding he may think or say that it is an imperfect optical instrument, forgetting that the very conception of that which is perfect or seems so to him, has been gained through this same instrument. First, the eye is, as far as our positive knowledge goes, the only organ which is *directly* affected by that subtle medium which, as science teaches us, must fill all space; secondly, it is the most sensitive of our organs, incomparably more sensitive to external impressions than any other.

This divine organ of sight, this indispensable instrument for thought and all intellectual enjoyment, which lays open to us the marvels of this universe through which we have acquired what knowledge we possess, and which prompts us to and controls all our physical and mental activity—by what is it affected? By light! What is light?

It is beyond the scope of my lecture to dwell upon the subject of light in general, my object being merely to bring presently to your notice a

certain class of light effects and a number of phenomena observed in pursuing the study of these effects. But to be consistent in my remarks it is necessary to state that according to the idea now accepted by the majority of scientific men as a positive result of the theoretical and experimental investigation, the various forms of manifestation of energy which were generally designated as "electric," or more precisely "electro-magnetic," are energy manifestations of the same nature as those of radiant heat and light. Therefore the phenomena of electrical phenomena. Thus electrical science has become the mother science of all, and its study has become all-important. The day when we shall know exactly what "electricity" is will chronicle an event probably greater and more important than any other recorded in the history of the human race.

### THE DEADLY CIGARETTE.

Every physician whose experience is at all extended will coincide in the statement that the chief and most alarming weakness of our civilization is the habitual smoking of cigarettes by a very large proportion of the population.

It is the young men of the country who are being ruined by inhaling tobacco smoke, and unless some effective inhibition can be suggested the outlook for a sturdy, clear-headed, energetic white race is gloomy.

That tobacco does give pleasure and gratification to a majority of the people in the world can not be denied, but for the cigarette nothing can be said except to deprecate its introduction and the measureless injury it is working.

If the smoker would merely draw the smoke into his mouth and puff it out again, as is done in using cigars and pipes, it is a question whether much harm would result unless excessive use should produce it. Cigarette smokers are not satisfied to use the weed in that way. They draw long whiffs into the mouth, and then by a reversed action of the muscles of the mouth and fauces fill their lungs with the results of combustion and carry smoke into contact with the great absorbing surfaces of the lungs, where the noxious elements are passed at once into the circulation and traverse the whole body under the most favorable conditions possible for doing harm.

One who has not studied the anatomy of the lungs can hardly understand how intimately the inhaled fumes of cigarettes are brought in contact with the blood.

When properly oxygenated air is inspired the oxygen passes into a vital fluid and carbonic acid gas is given off from the blood, so that a constant regenerative process is maintained. But when smoke instead of air is breathed, the lungs take up the volatile and subtle poisons which result from combustion, and the carbonic acid gas is slightly if at all got rid of. A single whiff from a cigarette inhaled deeply affects a smoker more than a pipeful of tobacco or a strong cigar.

Cigarettes inhaled would be harmful if all the nicotine could be extracted before the cigarette were smoked, but when a marked percentage of the oil remains they are very destructive. Nicotine instantly lessens the power of the heart and affects the respiration. Upon the general muscular system it has an initial exciting effect, but that soon passes away and is followed by exhaustion.

Confirmed cigarette users are in constant danger of being overcome by surprise or excitement. The "tobacco heart" is produced by the habit and is an affliction which is now very common. The heart is changed in its minute structure. A kind of degeneration ensues and the muscular tis-



sue of the organ becomes friable like liver and can be readily picked to pieces. It may perform its functions fairly well under ordinary conditions, but any startling incident is likely to cause it to suspend, and there is no succor for one so afflicted.

The cigarette habit weakens the mind, in common with all other functions. There is an easily perceived difference between persons who have for a long time inhaled tobacco smoke and those free from the habit. Nicotizing the brain seems to make it slow in action and uncertain. The memory loses its clearness. There is generally a painfully self-consciousness of the loss of mental power and a realization of the lapse of memory, but with the knowledge there also exists a weakened will that has not virility enough to stop the practice that has caused the trouble.—*Indiana Pharmacist.*

#### LEPROSY.

Conclusions based on the report of the Leprosy Commission in India. The following conclusions are based upon the observations and arguments contained in the foregoing report:

1. Leprosy is a disease *sui generis*; it is not a form of syphilis or tuberculosis, but has striking ætiological analogies with the latter.

2. Leprosy is not diffused by hereditary transmission, and for this reason, and the established amount of sterility among lepers, the disease has a natural tendency to die out.

3. Though in a scientific classification of diseases leprosy must be regarded as contagious and also inoculable, yet the extent to which it is propagated by these means is exceedingly small.

4. Leprosy is not directly originated by the use of any particular article of food, nor by any climatic or telluric conditions, nor by insanitary surroundings; neither does it peculiarly affect any race or caste.

5. Leprosy is indirectly influenced by insanitary surroundings such as poverty, bad food, or deficient drainage or ventilation; for these, by causing a predisposition, increase the susceptibility of the individual to the disease.

6. Leprosy in the great majority of cases originates *de novo*, that is, from a sequence or concurrence of causes and conditions dealt with in the report, and which are related to each other in ways at present imperfectly known.—*The Indian Medico-Chirurgical Review.*

#### THE SALIVA OF CATS AND DOGS.

Signor Tioeca has lately published a series of interesting observations on the saliva of cats and dogs. He finds that of the cat swarms with various kinds of micro-organism. Among the latter he has discovered a new pathogenic form of very constant occurrence, which kills guinea pigs and rabbits inoculated with it within twenty-four hours. The same observer found the saliva of the dog charged by an even greater number of bacteria, some of them pathogenic, while there were numerous ova of flukes and intestinal worms. These statements are, to say the least of it, of a suggestive nature. The exact relation of domestic animals to ourselves in the communication of disease offers an interesting and wide field of investigation. Here, at any rate, is scientific chapter and verse to condemn the practice of kissing dogs and cats, or of allowing them to lick one's face or hand.—*Medical Press.*

A VICTORY.—“How did you happen to marry him? Were you in love with him?” “Oh, no; but another girl was.”

#### FOR CORNS.

The following directions for removal of corns from the feet are contributed by a correspondent of the *Brit. Med. Journal*:

Immerse the feet for ten minutes or more in cold (or in winter, very slightly chilled) water. Then with a strong-bladed, sharp penknife gradually shave off the corn in thin slips, or a plane, with the surface, and subsequently remove any slight inequalities with a small and very fine file. The secret of success consists in the use of cold water for the immersion of the feet. Razors, small, slender penknives, and warm water must be avoided.

“Doctor, I come to see you about my youngest brother.”

“What is the matter with him?”

“One of his legs is shorter than the other, and he limps. What would you do in a case like that?”

“I reckon I'd limp, too.”

“Reuben, what's optimism?”

“Optimism, Hannah, is a disease of the eye, and you'll git it the first thing you know if you keep on reading that fine print.”

Five-year-old Bessie (telling of the medicine she had taken)—and I took some compulsion of cod liver oil and—

Mrs. B.—You mean emulsion, don't you, not compulsion.

Bess.—Well, I think there was some compulsion about it.

#### MANUFACTURE OF OLEOMARGARINE.

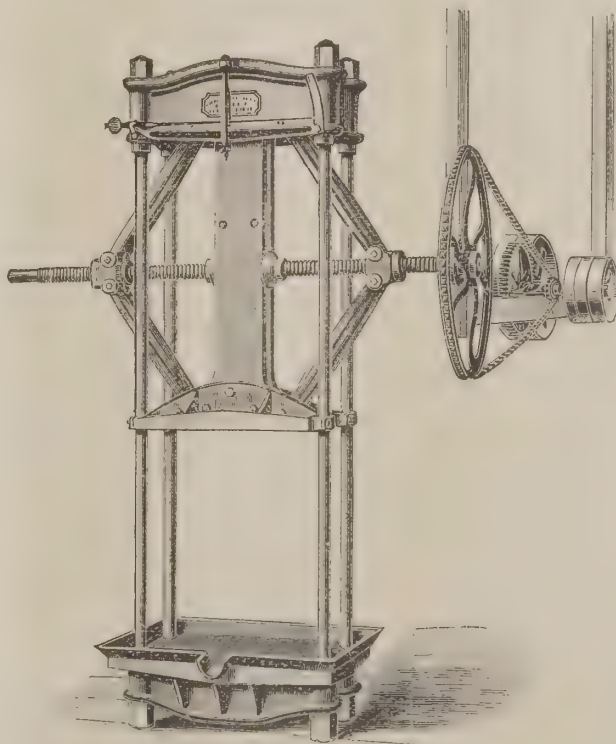
Much has been said and written about the use of oleomargarine, but the method of its manufacture does not seem to be generally understood.

The best oil for this purpose is made from the “long” or “caul fat” of cattle only. Upon re-

then run through a hasher, from whence it drops into the agitating kettle and heated to 130 degrees. After being melted it is allowed to settle in the kettle, and is then drawn off into settling tanks, where it is kept at 120 degrees of heat until completely settled, when it is drawn into the coolers, which are tanks or vats on wheels which can be run to the seeding room, a room kept at a temperature of 75 to 80 degrees. After twenty-four to thirty hours the stock will have granulated or separated and is then ready for the press, which is shown in the illustration and is manufactured by the Boomer & Boschert Press Company, Syracuse, N. Y.

The granulated or seeded stock is enclosed in cloths and laid up in the press with iron or steel plates between. A number of bags are laid on each plate and from fifty to sixty plates are used in each press. The temperature of the room is kept at 90 degrees, and the oil produced, if the work has been well done, will be clear, yellow, and sweet. This oil is then taken, cooled to about 70 degrees, placed in a churn in about the proportion of five pounds of oil to one pound of sour milk, together with the proper amount of solution of annatto and a small quantity of bicarbonate of soda and the whole agitated for fifteen to twenty minutes, when it is run into a tank on wheels containing pounded ice and mixed until sufficiently chilled and the grain broken. After two or three hours it is placed on an inclined table, the ice melted out, and it is again churned, using about three-fifths oil and two-fifths sour milk, when the desired flavor and odor is imparted and it is ready for salting and working the same as dairy butter.

It will be understood, of course, that the same degree of cleanliness is essential for the production of good oleomargarine, as is required in any creamery and if prime fat only has been used—and this is the only kind that will make good salable oleomargarine—the product is equally healthful.



moval from the animal the fat should at once be put in cold water, thoroughly washed and left until the animal heat has been taken out. It is

COSTS MONEY.—Jasper—Politeness is cheap.

Jumpuppe—Not always. It is usually mighty expensive when you get it from waiters.



## CANNED VEGETABLES.

### REPORT OF INVESTIGATIONS AND ANALYSES.

BY K. P. M'ELROY AND W. D. BIGELOW.

(Continued.)

#### USE OF SOLDER IN CANNING.

The analysis of the solder presented no difficulty. Weighed portions were treated with nitric acid and the tin oxid filtered and weighed. In the filtrate the lead was estimated as sulphate. Traces of copper, coming possibly from the soldering tools, were nearly always present, but were not estimated. All the solders examined were taken from the interior of the can, and were all from the pea samples.

#### LEAD IN SOLDER FROM INSIDE OF CAN.

Serial No.	Lead per cent.	Serial No.	Lead per cent.	Serial No.	Lead per cent.
10695	61.84	10711	51.86	10915	62.47
10699	57.64	10717	53.96	10916	63.73
10700	54.78	10719	55.98	10917	52.18
10702	58.58	10720	62.37	10918	51.03
10704	59.94	10910	60.31	10919	56.05
10706	60.34	10912	65.47	10920	60.64
10708	63.31	10913	53.87	10921	53.05
10709	43.60	10914	54.48	10990	53.07

It will be noticed that none of these samples approaches the German limit of 10 per cent. They are evidently "half and half" solder. It is said by the trade, however, that a 10 per cent solder is extremely difficult to use, owing to its infusibility. The German canners use it in compliance with the law, but dislike it and are resorting to many devices to avoid exposed solder. One way of doing this is to varnish the inside of the can and put on the top with a rubber joint.

#### LEAD-TOPPED BOTTLES.

Several of the French samples were packed in glass bottles closed by a lead top. In view of the fact that the only assignable reason for the preference of bottles over the ordinary tin can is to avoid all danger of metallic contamination of food, this practice is a most extraordinary one. Sample No. 10885 may serve as an example of this method of packing. This bottle bore the inscription "Petits pois, extra fins, Dandicolle & Gaudin, Limited, Bordeaux, France," and cost 40 cents. The bottle itself was an ordinary white glass bottle with the top ground off. The cover was formed of a piece of sheet lead, fastened around the neck by an iron band. There was nothing whatever in the way of protection between the lead and the peas. Probably the packers went on the assumption that the bottle was not likely to get wrongside up during its travels from France to this country and thought the precaution superfluous. On analysis the metal was found to consist of 93.57 per cent lead and 6.43 per cent tin. Strangely enough the contents of the bottle were found to be almost free from lead. Copper there was in plenty, but little lead. Samples Nos. 10738, "haricots verts," 10978, macédoine; 10979, Brussels sprouts; and 11146, asparagus, were all bottled by the same firm in a similar manner. Samples Nos. 10879, peas, and 10936, "haricots verts," were packed by Eugene Du Raix, also of Bordeaux, and were put up in a similar fashion.

(To be continued.)

POPULAR MEDICAL EDUCATION.—Education of the public in legitimate medicine is its best protection against the deceptive wiles of quackery. And the public press is the great popular educator. But the benefits of the publication of medical news by the press are not always to the laity alone. They are often reaped by the profession, and in a valuable form.—*Ex.*

Cutting off a rooster's spurs will generally take a good deal of wind out of his crow.

The best lighted streets are traveled the most. Wear a smile if you want to be useful.

In Kiukiang there is a man who has taken a vow to watch three years at his mother's grave, during which period he will live entirely in a small hut. His neighbors provide for him. He will not wash himself. The straw upon which he lies will not be removed, nor will he change his clothes. He speaks to no one, and spends his time muttering prayers and burning incense. He cannot stand upright and the hut is only a few feet longer than himself. He has been there already for seven months, but the place now is said to be in a state not very promising for the completion of his watch. If he gets through he expects to receive high honor from the government.

THE DIFFERENCE.—Tommy — Paw, teacher wants to know the difference between "effects" and "consequences."

Mrs. Figg—I think I can answer that. When your father came home from that banquet last night he felt the effects of it; and today he is suffering the consequences.—*Indianapolis Journal.*

ROUGH ON THE PHILADELPHIANS.—We are told that the only hotel in Jerusalem is kept by a Philadelphian. There would seem to be no good reason why a Philadelphian should not keep a hotel anywhere in the world—particularly when he has so good a model as the Lafayette to "go by."—*The Tourist.*

"John McDuffy (charged with vagrancy), what can you say for yourself?"

"Not guilty, your honor."

"What is your business?"

"A professor of bacteriology."

"Ten dollars and twenty days. No visible means of support."

There is no use in looking for a revival in the church where the members prefer to sit ten feet apart.

# TWIN REMEDIES

## BUFFALO LITHIA WATER AND HOT SPRINGS WATER

In Bright's Disease, Uric Acid Diathesis, Gout, Rheumatic Gout, Rheumatism; their value in Calculi.

**Dr. Algernon S. Garnett,** *Surgeon (retired) U. S. Navy, Resident Physician, Hot Springs, Ark., says:—"My experience in the use of BUFFALO LITHIA WATER is limited to the treatment of Gout, Rheumatism and that hybrid disease 'Rheumatic Gout' (so-called), which is in contradistinction to the Rheumatoid Arthritis of Garrod.*

*"I have had excellent results from this Water in these affections, both in my own person and in the treatment of patients for whom I have prescribed it. Of course the remedial agent is its contained Alkalies and their solvent properties. Hence it is a prophylactic as well as a remedy in Nephritic Colic and forming Calculi, when due to a redundancy of Lithic Acid."*

**Dr. Wm. B. Towles,** *Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia, former Resident Physician, Hot Springs, Va., says:—"I feel no hesitancy whatever in saying that in Gout, Rheumatic Gout, Rheumatism, Stone in the Bladder, and in all Diseases of Uric Acid Diathesis, I know of no remedy at all comparable to BUFFALO LITHIA WATER.*

*"Its effects are marked by causing a disappearance of the Albumen from the urine. In a single case of Bright's Disease of the Kidneys, I witnessed decided beneficial results from its use, and from its action in this case I should have great confidence in it as a remedy in certain stages of this disease."*

**The late Dr. Wm. F. Carrington,** *Resident Physician, Hot Springs, Ark., Surgeon (retired) U. S. Navy, says:—"BUFFALO LITHIA WATER, Spring No. 2, has signally demonstrated its remedial power in Gout, Rheumatic Gout, Rheumatism, Uric Acid Gravel, and other maladies dependent upon the Uric Acid Diathesis.*

*"It not only eliminates from the blood the deleterious agent before it crystallizes, but dissolves it in the form of Calculi, at least to a size that renders its passage along its ureters and urethra comparatively easy. Send twenty cases No. 2."*

**Dr. T. B. Buchanan,** *Resident Physician, Hot Springs, Ark., says:—"Send me five cases BUFFALO LITHIA WATER, Spring No. 2. I have made use of this Water for Gout in my own person and prescribed it for patients similarly suffering, with the most decided beneficial results. I take great pleasure in advising Gouty patients to these Springs."*

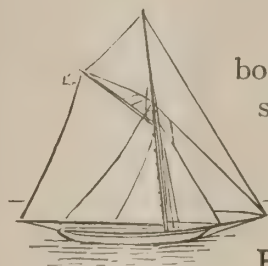
Water for Sale by All Druggists. Pamphlets sent to Any Address.

THOMAS F. GOODE, Buffalo Lithia Springs, Virginia.



## CONSIDER YOUR LIVER; HOW IT WORKS.

A well-known literary man of Boston, recently visiting a friend in New York, suddenly became very ill, suffering the most excruciating pains, caused—as he was informed by the physician called to his aid—by “gall stones,” which are biliary calculi, formed in the gall-bladder or biliary passages. During a fortnight he was in great agony and even yet his recovery, at one time despaired of, is by no means assured. But the “gall-stones” have forced their way through the biliary passages, are presumably out of him by this time, and he will get well, if he has strength enough left to resist the violent jaundice brought on by the temporary occlusion or stoppage of the bile duct. If he does, it will be a happy accident. In most cases such a severe attack would naturally have been fatal. “Gall-stones,” your physician will be apt to tell you, “inflict fearful torture, but are not dangerous provided they do not stop up the bile duct, which, if large, they are very apt to do.” And nitro-glycerine is perfectly harmless, if it doesn't explode, which it is very apt to do. The ghastly fact is that nothing out of the ordinary way can happen to your liver, nothing capable of calling your attention to the fact that you have a liver, which is not serious and quite capable of terminating your interest in mundane proceedings if it takes a very possible evil turn. No other organ in the human economy, not even the brain or the heart, is of more vital importance than the liver, and no other resents more forcibly any improper treatment. Its principal function, that of secreting bile to aid the process of digestion, is of the highest importance and if interfered with leads



## Sailing Away,

both of them for pleasure,—with the chances for safety in favor of the washboard. In fact, there isn't much chance for safety until it's gone. If you don't want your clothes rubbed to pieces—throw it away. Use

Pearline. That washes without harm. The washboard wears out while it's getting things clean. It's rub and wear without Pearline. It's hard work, too. Pearline takes away the rubbing and the work. No use for either, it takes away the dirt easily, quickly, cheaply.

**Send it Back**

Peddlers and some unscrupulous grocers will tell you “this is as good as” or “the same as Pearline.” IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearline, do the honest thing—*send it back.*

380

JAMES PYLE, New York.



## Indigestion

### Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

Dr. W. W. Gardner, Springfield, Mass., says: “I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened.”

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For Sale by all Druggists.

very promptly to the most serious consequences. cessation of the functions of the bowels, exhaustion and perversion of the kidneys through the double work devolved upon them, and poisoning of the blood by reason of its becoming loaded with the matter that should have been carried off in the form of bile. Persons of sedentary habits, those addicted to the use of rich food and stimulating beverages, and those exposed to climatic extremes, are especially subject to diseases of the liver and this is the season of the year when such affections are most frequent. It is extremely unwise to wait until a bilious fever has declared itself, or one is writhing in the agony of “gall-stone” expulsion, or suffering the torture of a bilious colic for the rectification of ill conditions of the liver. The primary indications of disease in this organ are unmistakable and should be the signal for prompt aid to nature. Indigestion, drowsiness, lassitude, nausea, soreness in the hepatic region, obscuration of vision, dizziness, and confusion of mental effort are all signs that an effective cathartic medicine is an immediately urgent requirement if one would avoid more painful and even dangerous symptoms sure to follow neglect. There was a time, not so remote as the days of Dr. Sangrado, when only calomel was recognized as an effective medicine for a disordered liver. Now, however, progressive science has given us a remedy as effective as calomel, yet much safer in administration, pleasanter in its operation and without any of the ill consequences to be apprehended from the mercurial drug. This excellent remedy is Ayer's Compound Cathartic Pills, a vegetable preparation of the active principles of simples known to be the most efficient in dealing with hepatic, and incidentally renal, troubles. No family should ever be without them.

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Frank J. Cheney makes oath that he is the senior partner of the firm of F. J. Cheney & Co., doing business in the city of Toledo, county and State aforesaid, and that said firm will pay the sum of One Hundred Dollars for each and every case of Catarrh that cannot be cured by the use of Hall's Catarrh Cure.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this sixth day of December, A. D. 1886.

{ SEAL }

A. W. GLEASON,  
Notary Public.

Hall's Catarrh Cure is taken internally and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

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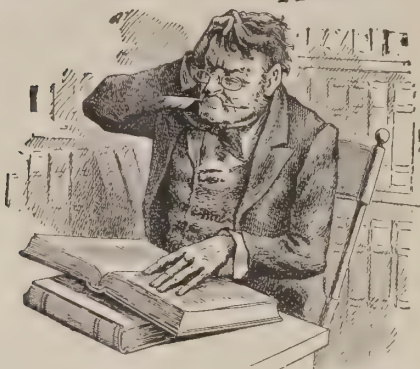
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O V Sauterne, with the exact character and Sève of imported Sauternes.

The Chateau d'Orleans and O V Chablis are sold in glass only.



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## TOOLS OF THE PYRAMID BUILDERS.

A two year's study at Gizeh has convinced Mr. Flinders Petrie that the Egyptian stone workers of 4,000 years ago had a surprising acquaintance with what have been considered modern tools. Among the many tools used by the pyramid builders were both solid and tubular drills and straight and circular saws. The drills, like those of to-day, were set with jewels (probably corundum, as the diamond was very scarce), and even lathe tools had such cutting edges. So remark-

able was the quality of the tubular drills and the skill of the workmen that the cutting marks in hard granite give no indication of wear of the tool, while a cut of a tenth of an inch was made in the hardest rock at each revolution, and a hole through both the hardest and softest material was bored perfectly smooth and uniform throughout. Of the material and method of making the tools nothing is known.

## A FEW GEOGRAPHICAL DON'TS.

Don't say or write Austro-Hungary. The best writers prefer Austria-Hungary.

Don't call the Chinese "Mongolians." It is better to reserve the latter name for the people who live north of China proper.

Don't speak of a native of China as a Chinaman. You would not say you had an Ireland man digging in your garden. It is better to call John a Chinese.

Don't, please don't, say that New York City is located on Manhattan Island. Such a misuse of the verb "to locate" is trying to the nerves of the best lexicographers. Say New York City is situated on Manhattan Island.

Don't speak of China as our Antipodes. Our Antipodes is the point on the other side of the world reached by a straight line passing through the place on which we stand and the center of the earth. Our Antipodes is in the ocean southwest of Australia.

Don't forget that Oriental names ending in "an" have the accent almost invariably on the last syllable, as Teheran, Beloochistan.

Don't imagine that the spelling of geographical names in the newspapers is necessarily accurate. It is safe to say that one-half of the place names in Africa and Asia, as they appear in our daily press, are mangled almost beyond recognition by the cable or the types.

Don't call Bermuda "North American island," as a writer in a newspaper did the other day. There are plenty of North American islands, but Bermuda is not one of them. It is an oceanic, not a continental island.

Don't be mystified if on one map in your atlas Hudson Bay seems to be larger than the Gulf of Mexico, while on another sheet of the same atlas the Gulf of Mexico appears larger than Hudson Bay. The apparent discrepancy is doubtless due to the different map projections employed. You know, for instance, that areas far removed from the equator are very much exaggerated as they appear on maps of the Mercator projection.

Don't say that the compass points the true north, for it doesn't, except in certain places. The compass points to the magnetic north, which is at present considerably west of the North Pole. When Lieut. Greely was at Lady Franklin Bay the declination of his needle was found to be very great, the needle pointing toward the magnetic pole in a direction nearly southwest.

Don't make the mistake some people do of thinking the word "alluvium" to be synonymous with "soil." Only those soils which are the result of the deposition of sediment by running water can properly be called alluvial soils.

Don't say "The Smithsonian Institute." The name is the Smithsonian Institution.

When you are writing a novel don't get your geographical facts so badly mixed as to reflect discredit upon your early training. In one of the popular novels of the day the Azores are referred to as in a southern latitude. The writer also introduces his hero into the Antarctic regions in January, and speaks of the "inky blackness" of the nights he experienced there. Of course

anybody ought to know that the month of January is the height of the Antarctic summer, and the entire month is one continuous day.—*Goldthwaite's Geographical Magazine.*

## INSURANCE VALUES OF HANDS AND FINGERS.

According to a scale of values furnished by the miners' unions and miners' accident insurance companies of Germany, the loss of both hands is valued at 100 per cent, or the whole ability of a man to earn a living. Loss of the right hand depreciates the working value 70 to 80 per cent; loss of the left hand rates at 60 to 70 per cent of the earnings of both hands. The thumb is reckoned to be worth 20 to 30 per cent of those earnings. The forefinger of the right hand is valued at 14 to 18 per cent, that of the left hand at from 8 to 13 per cent. The middle finger is rated 4 per cent under the first finger. The third finger has a value of only 7 to 9 per cent, the little finger rating 2 per cent higher. The differences in percentages affecting any given finger are governed by the vocation of the injured person; thus it is manifest that the forefinger and the little finger are either of them much more valuable to the literary man or bookkeeper than to the man who works with the pick and shovel. To the latter the middle and third finger will be especially advantageous, because they relate to the grip which the laborer should have upon his heavy tools.

## It's Right Against Common Sense

to suppose that an imitation offers the customer any guarantee like the original does. Take *Cottolene* for example, FAIRBANK & Co. discovered it, perfected it, and spent thousands in making its merits known. It is plainly to their interest to make and keep it what it is to-day—the most popular shortening in the world.

But when you come

## To accept any Counterfeits for Cottolene

these guarantees all disappear, and the housekeeper is at the mercy of an imitator who deals on others' reputation and who profits only by others' loss.

To ensure having good cooking and healthful food stick right to COTTOLENE and let all imitations severely alone.



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**N. K. FAIRBANK & CO.,**  
CHICAGO,  
St. Louis, Montreal, New York,  
Boston, Philadelphia,  
San Francisco, &c.



## WORLD'S FAIR AWARDS.

Walter Baker & Co., Dorchester, Mass., have received from the judges of the World's Columbian Exposition one of the highest awards on each of the following named articles contained in their exhibit: Breakfast Cocoa, No. 1 Chocolate, German Sweet Chocolate, Vanilla Chocolate, Cocoa Butter.

The judges state in their report that these products are characterized by excellent flavor, purity of material employed, and uniform even composition, indicating great care in point of mechanical preparation.

CHICAGO, Oct. 24.—The judges of award have announced two awards and two diplomas to the Stewart Hartshorn Company, successors to Stewart Hartshorn, who originated and perfected the celebrated self-acting shade roller bearing his name. The company's exhibit is in the Manufactures Building, and is in the form of an Egyptian temple, composed entirely of Hartshorn shade rollers. It is one of the interesting novelties of the World's Fair. The Hartshorn shade roller has taken high honors before and it is not a new thing for it, one of the features of the exhibit being a case containing four gold and six bronze medals awarded to it by the principal expositions of the world. The business of the

company was established in 1849, and it manufactures shade rollers exclusively.

CHICAGO, Oct. 13.—W. R. Warner & Co., of Philadelphia, have obtained the highest prize for the purity and perfection of their medicinal and official standard pharmaceutical and chemical products.

This extensive firm have obtained hitherto twelve grand World's Fair prizes, and they must feel deservedly proud of the Columbian award, which is the highest of its class.

## IN ANSWER TO SOME QUESTIONS.

REASONS WHY WE CAN SELL THE ENCYCLOPEDIA SO CHEAPLY.

The inquiry is often made by intending purchasers of an encyclopedia how it is possible for us to furnish the twenty large volumes of the Revised Encyclopedia Britannica for so small a sum as \$10. People cannot realize how so much value can be given for so little money, but the causes of our ability to do this are plain and simple.

In the first place, the work being bound not in cloth, but in heavy jute manilla paper, can be forwarded through the United States mails to any part of the Union at the low rate charged for second class mail matter. If it were bound in

cloth, sheep, or morocco, the expenses of transportation by express or otherwise would add very largely to the cost of the work to the purchaser.

Second, if it were sold through the regular channels of trade, it would have to pass through the hands of the jobber and the retailer, each of whom would demand a profit. In such a case the cost of the book to the ultimate purchaser would be at least double what we ask. We sell to you at wholesale, dispensing with the middle men, and thus saving you fully one-half on your purchase.

Third, there is an enormous demand for this magnificent encyclopedia, and the editions printed are so large that the cost of production is minimized.

A closing word about the Revised Encyclopedia Britannica. It is printed from new electrotypes plates on good paper, the mechanical execution is of the best, the maps are equal to any. There are maps of every country in the world and every State of the Union, twenty volumes of 7,000 pages, containing 10,000,000 words, 4,000 biographies not contained in the costly and obsolete English works and their reprints, and all this is to be had for 10 cents a day.

A CORKER.—Young Lady (to instructor in German)—When is your birthday to be, Herr Professor?

Herr Professor—I have been already born, my Fraulein.—*Pharmaceutical Era.*

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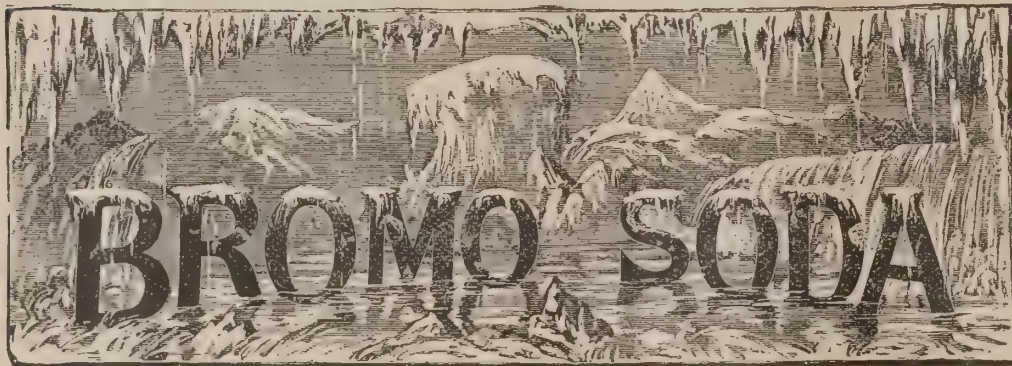
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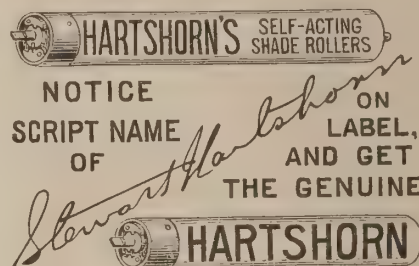
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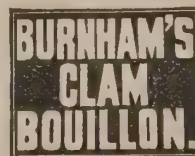
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

DECEMBER 1, 1893.

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### YANKEE BEEF IN ENGLAND.

What the report of Lord Onslow's committee on English and foreign meats would be was pretty clearly foreshadowed by the character of the testimony taken on which we have already commented. The testimony and the conclusions of the committee are certainly satisfactory on this side of the ocean, and the recommendations of the committee, which are in accord with the petitions of the domestic producers, are really decidedly in our interest. The domestic producers are seeking protection from the competition of cheap foreign meats, and to this end they petitioned that foreign meats should only be sold in shops specially licensed for such trade, and having that fact conspicuously displayed on the

door. They assumed that their customers would prefer to buy domestic meat if they could only tell which was which.

All this is true enough of a small class of well-to-do Englishmen, who are willing to pay a little extra for home-grown meat, but only because of a natural belief in the superiority of meat that has been transported several thousand miles, either dead or on the hoof. While the butchers have been doing some harm to domestic meat by selling foreign meat as home-grown, they have also been doing a great deal of good to the domestic article by fortifying the belief in its superiority. They have been selling fine cuts, wherever they came from, as home-grown, and inferior meats as imported. The domestic producers do not realize the fact, but they have been gaining more than they have been losing by this system of deceit; they have lost some sales, but the prices of home-grown beef and mutton have been kept up.

The report of Lord Onslow's committee says that the meat of American cattle killed at Birkenhead is so like English meat that ninety-nine persons out of a hundred cannot tell the difference. Indeed, the report says that imported meat averages a better quality than domestic meat.

If, in accordance with the request of the English growers, and the recommendations of Lord Onslow's committee, this excellent foreign meat is offered to consumers only as foreign meat, Englishmen will soon get tired of paying an extra price for home-grown meat. The price of domestic meat will come down or there will be a great increase in the demand for the imported. Of this far the greater part comes from the United States: from this country, the report says, England takes annually 343,573 tons of meat; from New Zealand, 43,127; from Australia, 19,863, and from Canada, 18,651 tons. Sixty per cent of the meat fed to the English Army is imported.

## CANNED VEGETABLES.

### REPORT OF INVESTIGATIONS AND ANALYSES.

BY K. P. M'ELROY AND W. D. BIGELOW.

[Continued.]

#### METALLIC CONTAMINATION.

In searching for the metallic combinations of the samples of canned vegetables examined in this laboratory, the method generally used was as follows: As large a quantity as possible (50 grams when size of sample permitted) of the dried sample was burned or charred, this depending on the nature of the sample, in a capacious porcelain crucible. The charred mass was extracted with weak nitric acid in the cold, to avoid solution of organic matter, filtered, and washed. The mass of char and insoluble matter on the filter was dried, together with the filter, and then burned to a white ash in a porcelain crucible. This ash was transferred to a platinum dish and covered with a mixture of hydrofluoric acid and a normal potassium fluorid.

It was then heated over a low flame till all the water was driven off, and then the heat pushed till the mass in the dish after fusing finally became infusible. The heat was then raised to redness, and kept at that point for a few minutes. After cooling, the fritted mass was treated with dilute sulphuric acid and heated till white fumes came off. It was next taken up with dilute hydrochloric acid and the solution added to that first obtained. From the mixed solutions copper, tin, and lead were thrown down after adopting the usual precautions, by means of hydrogen sulphide. In the filtrate, zinc when present was determined by the Low ferrocyanid method. The mixed sulphids of lead, tin, and copper were treated with hot dilute solution of sodium sulphid, the resulting solution filtered, and the residue once more extracted in the same way. From the mixed filtrates tin was precipitated by hydrochloric acid, regulating the addition by congo paper. The tin sulphid was converted to oxid by careful ignition, and weighed in that shape. The residual sulphid of lead and copper were oxidized by nitric acid and the lead separated as sulphate or chromate. In the filtrate copper was determined electrolytically.

In many cases copper was determined colorimetrically, but lead was invariably estimated gravimetrically.

Tin and lead estimations in the case of canned goods are always subject to a grave element of doubt, from the fact that it is an extremely difficult thing to remove all traces of solder. Of course lead and tin in this shape are not particularly dangerous to health, or, at all events, not nearly so much so as are these metals when occurring in foods in the dissolved or combined state. Extreme care was taken in the effort to avoid this source of error, but the attempt can not have been always successful.

#### LEAD.

As just stated, the estimation of lead in canned goods is a matter of extreme difficulty—that is, the estimation of the lead existing as salts in contradistinction to that existing in the metallic form. Careless work on the part of the canners is responsible for the fact that many cans contain fragments of solder of varying sizes. Above a certain limit these particles can be hand-picked and below this point in the method of grinding the samples used in the analyses of canned vegetables, much of the solder was flattened sufficiently to be picked out during sifting. Metallic lead is probably also present in another form in these goods. The food dissolves out more or less of the metal from the solder, and this is again precipitated in a finely divided state by the tin of the walls of the cans. This of course can not be mechanically separated. It is probable however, that this latter metal, by reason of its state of aggregation, from a hygienic standpoint, is about as dangerous as if it were oxidized. This is of course not true in the case of lead existing as solder. Solder, or metallic lead in any shape, present in food is bad, but in point of danger it is not comparable with lead existing as salts.

For the reasons adduced above, the quantities



of lead found in the various samples of canned foods must be understood to represent merely the sum of the metal present in a finely divided condition and that in an oxidized condition. Were it otherwise, and did these figures represent altogether dissolved lead, canned goods would be a source of great danger to health. Of course, in the case of samples put up in bottles, solder is not present and the lead found was probably all in an oxidized condition.

Lead is a dangerous metal and the canners are very free with it. The solder used seldom contains less than 50 per cent, and it is found on the inside of the can in liberal quantities, not considering that present as detached particles. Besides this, the tin plate often carries lead to large extents. Were it not for the reaction cited in speaking of tinning alloys, that metallic tin precipitates lead from its solutions when present in large excess, careless canning would be much more dangerous than it is. Unluckily, because tin, although not innocuous by any means, is not so dangerous as lead, this reaction is not absolute. After a certain quantity of tin is dissolved lead begins to go into solution to some extent. The relative quantities of the two metals in solution will depend partly on the nature of the food and partly upon the relative quantities of metallic lead and tin exposed to the action of the food. Some lead is frequently found dissolved, though not often where the canning has been conducted with proper care and good materials have been used.

Little need be said in regard to the poisonous nature of lead compounds. This is so well known that its repetition here is almost unnecessary.

The most unpleasant characteristic of lead is its property of accumulating in the system and then suddenly manifesting a strong poisonous action. "Wrist drop," "printer's palsy," "painter's palsy" and "lead colic" are common names for maladies produced by its action. The literature of medicine is full of fatal cases, though it is believed there are none recorded from lead in canned goods. Blythe states that in the five years ending in 1880, there were 324 deaths from lead poisoning registered in England. This is equal to about 20 per cent of the total recorded number of fatal cases from poisons of all kinds. But one was accidental and none were criminal.

Lead is the most dangerous from a toxicological point of view of the common metals. Its use in any way or place where it is liable to come into contact with food is to be earnestly condemned. Nearly all European States render such employment illegal.

#### ZINC.

Zinc is probably not often purposely introduced into canned goods. Zinc salts have been proposed for greening peas, and are said to be in use in France to some extent. The process is said to be a secret. It is not likely, however, that it is often used for this purpose. Around canneries the use of galvanized iron is very common and vegetable juices coming into contact with it could readily dissolve more or less zinc, for that metal is quite soluble in acids, even when weak. Its introduction into canned goods might also happen from the use of zinc chlorid as an aid in the soldering operation.

Toxicologically zinc resembles copper in that, while an emetic in large doses, small quantities are not known to be specially poisonous. The dose of sulphate given as an emetic is about 1.3 grams (equivalent to 294 mg. of zinc). For this purpose the salt is regarded as one of the best known. Many cases of fatal poisoning are on record from zinc salts, but these are all from the

use of large quantities. Ordinarily, however, a large dose of a zinc compound is not dangerous, for the reason that the stomach at once rejects it. Little is known relative to the effect of small amounts of zinc, continually administered for long periods of time.

There is no legitimate reason for this metal being in canned goods, and its presence there is usually the result of gross carelessness. It was found in many of the samples of canned vegetables examined and occasionally in relatively large quantity. In the pea sample, No. 10629, packed at Bordeaux by Vve. Garres & Fils, and bought in Florida, it was present to the extent of 85.5 mg. per kilo. This may be one of the samples greened by the zinc method just referred to. The peas were bright green.

#### TIN.

Of the possible metallic contaminations, that caused by tin is, next to that of lead, probably the worst. It is assuredly the most common. In every sample of canned goods, which has been put up for any length of time, tin may be found dissolved or rather present in the oxidized or combined state. Varnishing the inside of the can, which is sometimes done, hinders this solution of the tin in great measure, but generally there is sufficient metal left bare to allow appreciable quantities to dissolve. The quantity which is taken up from a bare can is of course almost entirely dependent upon the nature of the contents. Highly acid liquids like those which surround some canned fruits dissolve the greatest quantity. Goods which have been sulphured also act heavily upon tin, forming tin sulphid, which probably then slowly dissolves to some extent. This appearance may be often noticed on the inside of cans which contain corn. The tin sulphid forms soft, pasty deposits on the metal, looking very much like mold to the naked eye. Indeed, these spots are very often taken for fungoid growths. The tin sulphid in this form is readily rubbed off into the food by any shaking of the can.

The formation of the sulphid occurs by virtue of the fact that metals very readily reduce sulphur dioxide, forming a metallic sulphid or hydrogen sulphid, according to circumstances.

Tin poisoning resulting from the use of canned foods is not often recorded, although it is probable that minor disturbances to health frequently occur from this cause.

In 1880 O. Hehner examined a large number of canned foods, representing most of those thus preserved, for dissolved tin. In most of these it was found. Experiments made on Guinea pigs with doses of stannous hydrate showed a marked poisonous and in many cases a fatal action. This is the state in which tin occurs in foods. Stannic hydrate was found to be relatively harmless. The doses of tin which he employed, though not large in themselves, were, considering the size of a Guinea pig, rather heavy. Still, his conclusion that tin has well-marked toxic properties seems well justified.

In 1883 Ungar and Bodlander examined a number of samples of canned goods, mainly asparagus. There had been a number of cases of illness resulting from the use of canned asparagus, which led them to make the investigation. Most of the foods examined contained the metal in greater or less quantity. In 1887 they resumed the subject and made a number of experiments upon the toxic properties of tin, using animals. Their conclusion was that tin in the stannous form, the one in which it occurs in canned foods, is capable of causing disturbance, more or less grave, when swallowed, and that chronic tin

poisoning might possibly occur. They also proved that tin present in food in an insoluble form was dissolved and absorbed during digestion.

#### GREENING VEGETABLES WITH SALTS OF COPPER.

Copper in varying proportions is found in many samples of canned goods. It is derived to some extent from copper pans and other utensils of the canneries, and to some extent it is added directly in the form of soluble copper salts. Its natural occurrence, at least occasionally and in minute quantities, is also probable. Green vegetables in the presence of minimum amounts of copper compounds do not turn yellow in cooking, but preserve a fresh, green color. This phenomenon is well known to all canners and has been in use since the beginning of the art. For greening pickles, the use of copper kettles has been known for centuries. The cause of the phenomenon has never been satisfactorily elucidated, though Tschirch has proposed an explanation. This is that in the process of cooking the chlorophyll is converted by the weak vegetable acids into two bodies, one of a basic nature and one of an acid—phyllcyanic acid. By this change the vegetables lose their original color and become brown. If, however, a salt of copper is present this combines with the phyllcyanic acid, forming a body of intense tinctorial power, being comparable in this respect with eosin. Solutions of one part in 200,000 show a blue color. The salt is soluble in alcohol, but not in water or dilute acids. It contains 9.2 per cent of copper oxide. Tschirch, from physiological investigations, was of the opinion that the compound is not harmful and that the presence in canned goods of 100 mg. of copper oxide in the form of the alcohol-soluble salt should be made legally allowable.

Since the earliest development of the art of canning, it has been a maxim in the canneries that in order to secure the best results green peas should always be cooked in copper kettles and that the kettles should not be too clean. Vegetable juices, even when only faintly acid, exercise a remarkable solvent action on copper oxide, and, in turn, in their presence copper oxidizes readily; so that when cooking is done in copper kettles and too much cleanliness is not exercised, vegetables readily absorb enough copper to produce the desired effect. The amount necessary is very small, only 20 to 30 mg. per kilo, or, in other words, 20 to 30 parts per million, of the vegetable. Lately, that is, within a few years, the preservers have learned that copper kettles are not necessary, but that the desired effect can be as well produced by the direct addition of copper sulphate or acetate, and this is now the usual practice. In 1890 an Alsatian firm (J. Clot & Cie.) patented a method of greening peas by which the copper vessel containing them was placed in connection with one wire from a dynamo, while the other wire was connected with an electrode hanging in the fluid surrounding the food. The current passing through the mixture dissolved enough copper to color the peas.

[To be continued.]

## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### WHITE OYSTER SAUCE.

One pint oysters, three tablespoonfuls butter, one tablespoonful flour, one of lemon juice, salt, and a little cayenne. Wash the oysters in enough



water with the addition of the oyster liquor to make a pint. Work the butter and flour to a paste. Let the water and oyster juice come to a boil. Skim, add the flour and butter. Let it come to a boil, and add the oysters and seasoning. Boil up once, and serve.

## CLAM FRITTERS.

One cup sweet milk, two well-beaten eggs, one-third of a teaspoonful soda; flour to thicken, twenty-five clams chopped fine, and a little of the liquor. Fry in lard.

## CHICKEN CHEESE.

Boil one large chicken in a little salted water, pick to pieces and chop. Season with salt and pepper. Half fill a jelly mold, put in three hard-boiled eggs whole, one at each end and in the middle. Then fill up with rest of chicken. Press lid down with a weight and leave all night. When wanted, turn out on platter, cut in slices. The juice left in the pot is to be poured over cheese when in the mold.

## CELERY SOUP.

Cut two bunches of celery in small pieces, par-boil five minutes, drain and put in a saucepan with four ounces butter, salt, pepper, two ladlefuls white broth, cover and let simmer one hour. Knead four ounces of butter with five of flour in another saucepan. Stir and cook a little, dilute with one quart boiled cream, two quarts of veal or chicken broth and the celery, boil ten minutes, rut through a sieve and boil again; add two ounces butter, one cup raw cream, and one teaspoonful cream.

## CAREMEL FOR COLORING SOUPS.

Melt one cup sugar with one tablespoonful water in a frying pan. Stir until it becomes a dark-brown color. Add one cup boiling water, simmer ten minutes, and bottle when cool.

## FORCE MEAT BALLS FOR SOUP.

Chop one cup of any meat fine, add one salt-spoonful salt and one of thyme, half a salt-spoonful of pepper, one teaspoonful lemon juice, one of chopped parsley, yolk of one egg, a few drops onion juice. Make into balls the size of a nutmeg, put in a soup plate, and sprinkle with flour. Put one tablespoonful butter in a frying pan and brown; put balls in until they are brown.

## CREAM WALNUT CAKE.

One cup sugar, two-thirds of a cup sweet milk, one egg, two teaspoonfuls melted butter, two teaspoonfuls cream tartar, one teaspoonful of soda, one pint of sifted flour. Bake in jelly tins

Filling.—One egg, one cup milk, two teaspoonfuls cornstarch, one heaping tablespoonful sugar, one cup chopped walnut meats. Heat milk to boiling, stir together the egg, sugar and cornstarch, and add to the milk gradually. Cook until mixture thickens, take from fire and add nuts.

## WHITE FRUIT CAKE.

One cup butter, two cups sugar, two and a half cups flour, whites of seven eggs, two teaspoonfuls baking powder, one pound figs, one pound dates, one pound almonds, blanched and cut in pieces; one pound raisins, three-quarters pound citron. Rut butter and sugar to a cream. Chop fruit rather coarsely, keeping each kind separate while chopping; then mix together. Sift a little flour over fruit, put the powder in the remainder of the flour, then add flour to butter and sugar, and lastly the whites of the eggs. Bake slowly an hour and a half.

## COOKING BY GAS.

In the course of a very successful series of lectures on cooking by gas which Madam Alting-

Mees has lately delivered in Brussels, at the invitation of the Belgian Association of Gas Managers, she took the opportunity of impressing on her audience the great importance of a knowledge of cookery to all who are, or are likely to be at the head of a household. When discoursing, whether in French or in English, on cooking by gas, Madam Alting-Mees shows that she not only understands her subject thoroughly, but also how to place it before her hearers in such an attractive way as to make them understand it. The attainment of this end is something to have achieved. But this lady has higher aims than merely producing a number of excellent cooks with the aid of gas stoves and gaseous fuel. She would have women and girls—and more especially the latter—turn their attention *con amore* to the culinary art as a very powerful factor in the promotion of domestic comfort and happiness. If they have been reluctant to do so hitherto, because the conditions under which the operations in this department of household management have been performed have not been altogether agreeable, such a feeling should not exist in these days, when, as Madam Alting-Mees and others have demonstrated over and over again, both the appliances used and the fuel employed in them conduce to, rather than militate against, the cleanliness which, as admitted by everybody, it is so highly essential to secure in preparing food for the table.

## OUR DAILY BREAD.

Much is said from time to time about the "coming man" or the "coming woman" and everybody is interested to know just what he or she will be like. We propose to call attention to the coming bread—an economical, palatable, attractive, and the most healthful bread.

In the May number of the *North American Review* Hon. Erastus Wyman discusses the question of white bread as an article of food and gives it as his belief that in the near future science will force upon food consumers a wheat product superior to the white flour now so much sought after.

He answers negatively the following questions relative to white bread:

"Does it give the workingman a greater return for his hard-earned loaf?"

"Does the refined milling process give to the convalescing invalid, to the growing child, more strength and nutriment than did the old-fashioned dark bread?"

Companies have been formed in England for the manufacture of whole-wheat bread. The product of these mills has become so popular and the demand for the flour so great that new companies are being organized, and the sales are reaching an enormous figure.

The *American Miller* thus describes the process of manufacturing this whole-wheat flour:

"The iron mill used is of exceeding simplicity and acts by creating two exceedingly powerful revolving air currents, by which two grains of wheat are thrown against each other, thus being reduced by attrition—bran, germ and kernel—to flour, which as soon as fine enough, is floated off on a rising air current, and deposited in the bin above the packer, without the necessity of submitting it to any bolting or sifting process. The grinding is done at low temperature; the meal is perfectly dried and aerated by the circulating air currents, and the whole grain is ground. Thus all the elements present in the wheat are also found in their natural proportion in the meal. The bread baked from this meal is not white, but assumes a warm, golden brownish

tint. It is free from the rasping grittiness of the imperfectly ground graham bread, the bran in which, never having been thoroughly pulverized, acts as an irritant upon the delicate digestive apparatus. The bread made from whole-wheat meal has a richer, more palatable taste than ordinary wheat bread."

## A VERY STABLE CEMENT FOR PORCELAIN.

A very stable and lasting cement for articles of porcelain that do not have to be submitted to a very great degree of heat, is made, according to the *Farben Zeitung*, as follows: First prepare a fine powder of metallic copper, by shaking a solution of copper sulphate with granulated tin. Wash the powder well after precipitation. The proportion of this powder will vary according to the desired hardness of the cement (which is in fact, an amalgam), and may run from 20 to 36 parts, the rule being the more copper the harder the cement. Place the desired quantity in a porcelain vessel and add to it sufficient sulphuric acid of 1.85 s. g. to make a pasty mass. Add at once 70 parts of metallic mercury and stir constantly until a homogeneous amalgam is obtained. Wash with plenty of warm water until all the sulphuric acid is removed. To use this amalgam it must be heated until it becomes like wax. The edges of the article to be united should also be heated to about 375 deg. C.) about 706 deg. F.). When applied to the heated amalgam a portion of the latter will attach itself to the edges which may then be joined. As soon as it is cool the article is ready for use. It will then stand heat up to 500 deg. F. without any danger.

## GOOD LEMONADE.

"I learned a new thing," said a woman recently, "while visiting, last week, an English friend who is living in the country. We had a small dance one evening of my stay, and my hostess served the most delicious lemonade I ever drank. I spoke of it next day, and she told me that it was made with freshly boiled water—the secret, she said, of thoroughly good lemonade. 'I have a regular rule,' she further informed me, 'which insures success if I am making a quart or a gallon. For a quart I take the juice of three lemons, using the rind of one of them. I am careful to peel the rind very thin, getting just the yellow outside; this I cut into pieces and put with the juice and powdered sugar, of which I use two ounces to the quart, in a jug or jar with a cover. When the water is just at the tea point I pour it over the lemon and sugar, cover at once and let it get cold. Try this way once and you will never make it any other way.'"

## FEASTING THE BIRDS.

A correspondent sends a short account of a winter custom which has been her delight ever since she commenced housekeeping. A piece of fat boiled pork is suspended from the roof of the porch or from some shrubbery near the house. It must be fastened high enough to be quite out of reach of dogs and cats. After a few days some adventurous little bird, it may be a snow bird, a woodpecker, or a tit-mouse, finds the treat which kind hands have provided for him and his fellows. He partakes of it, and then flies away to tell his mate of his discovery. The good news soon spreads, and there is scarcely a minute of the day in which the observer cannot see some bird pecking away at the pork. The experiment should be tried in order to realize the enjoyment that may be derived from watching the guests at this feast.



## WHY WEAR MOURNING?

The custom is outworn; it is an anachronism in the nineteenth century. It is unchristian; it clouds the spiritual significance of the resurrection with the ever-present expression of temporal loss. It is cruel; it forces helpless and innocent people into action, which entails privation and unnecessary suffering. It is untruthful; it makes false outward show of changes in sentiment. And it is essentially vulgar; for it presses private affairs upon public notice; it thrusts claims of fashion and frivolity upon a time which most greatly moves the heights and depths of being; and it forces its superficial worldliness into the fiercest throes which can ever rend human nature. Why, then, do we still wear mourning?

**TO RENOVATE AND DYE BLACK ARTICLES OF HAIR OR BRISTLES.**—The *Bayerischer Gewerbeblatt* gives the following, after Stockmeyer: Dissolve in 1000 parts of hot water 30 parts of tartaric acid, and add at once, 30 parts of crystallized sodium hydrate. After a few moments add 50 parts of wool-black and  $2\frac{1}{2}$  parts of naphthol yellow. In this hot bath place the articles to be dyed, which should previously be thoroughly cleaned and freed from grease. Let them remain in the bath an hour, remove, press out the dye liquid and dry. After they are dry wash out with water, and, finally, place them in a cold solution composed of 3 parts tragacanth, 20 parts of glycerine, and 1000 parts of water. After removal, dry. The dried articles will appear shining and black as new. In this manner the old rusty hair-cloth of furniture may be completely renovated.

**TO KEEP EGGS FRESH.**—The season is rapidly approaching when fresh eggs are hard to get, and hence any process by which they may be put up for winter use and retain their freshness, is desirable. Such a process, claims the *Apotheker Zeitung*, is the following: Pack the eggs, along with sufficient shavings to keep the layers separate, in stoneware vessels, and when a sufficient quantity has been put in, fill the container with neutral paraffin oil. It is stated that eggs thus prepared retain absolute freshness for many months.

**A GOOD OAK COLOR.**—The *Bayerischer Gewerbeblatt* gives the following: Mix equal quantities of oil of turpentine and boiled linseed oil and in the mixture dissolve sufficient Bismark or other anilin brown until the desired tinge of color is reached. This is learned by spreading a drop of the solution upon wood or paper, from time to time as the color is added.

**BLACK LACQUERS.**—A shining black lacquer or varnish is obtained by dissolving by the aid of heat, in a waterbath, 500 parts of shellac in 375 parts of alcohol of 94 deg., and 61 parts of Venice turpentine, and adding to the solution 130 parts of nigrosin and 15 parts anilin yellow. If a dead black is desired substitute oil of turpentine for the alcohol and Venice turpentine.

The secret of frying Saratoga potatoes or "chips," as they are called, is to have them cold, crisp and dry before putting them in the boiling fat. They are sliced as thin as possible, soaked in ice water an hour or more, and each slice dried on a towel, fried in very hot fat, and drained on a sieve a moment in a very hot oven or stove, then cooled in a draft quickly. They are hardly worth the trouble. They taste better to be sliced thicker, soaked in cold water, drained

and fried in a covered pan with two or three spoons full of suet, turning brown before they are put in; salt and pepper thickly while cooking at leisure.

The true marine glue is a combination of shellac caoutchouc in proportions which vary according to the purpose for which the cement is to be used. Some is very hard, and some quite soft. The degree of softness is regulated by the proportion of benzole used for dissolving the caoutchouc. Marine glue is more easily purchased than made, but when a small quantity is needed the following recipe will give very good results: Dissolve 1 part of india rubber in 12 parts of benzole, and to the solution add 20 parts of powdered shellac, heating the mixture cautiously over the fire. Apply with a brush.

The following recipe is said to yield a strong cement. Ten parts of caoutchouc or india rubber are dissolved in 120 parts of benzine or naphtha, with the aid of a gentle heat. When the solution is complete, which sometimes requires ten to fourteen days, 20 parts of asphalt are melted in an iron vessel, and the caoutchouc solution is poured in very slowly, in a fine stream and under continued heating, until the mass has become homogeneous and nearly all the solvent has been driven off. It is then poured out and cast into greased tin moulds. It forms dark brown or black cakes, which are very hard to break. This cement requires considerable heat to melt it, and to prevent it from being burned it is best to heat a piece of it in a water bath until the cake softens and begins to be liquid. It is then carefully wiped dry and heated over a naked flame, under constant stirring, up to 300 deg. F. The edges of the article to be mended should, if possible, also be heated to at least 212 deg. F., so as to permit the cement to be applied at leisure and with care. The thinner the cement is applied the better it binds.

A cheap method of finishing floors is to mix burnt sienna with petroleum, and to apply this freely. This method is objectionable from the point of view of fireproof qualities, but has the advantage of being very cheap, while the appearance is not at all objectionable. Another very cheap method is to add a very little Brunswick black to boiled linseed oil. This gives a rich brown color that will dry hard, and if it be at, say, the end of every year removed, the floor will always look in good order. For kitchen floors, passage-ways and other places where there is much traffic, this method gives very excellent results.

## CHAMPAGNE.

There has lately been published a table showing the imports of champagne into the United States from January 1 to October 1, 1893, and comparing the same with the same period for 1892. From this we abstract those wines of which more than 10,000 cases were imported. The total number of cases imported was for 1893, 201,920; for 1892, 204,972.

IMPORTER.	BRAND.	1893.	1892.
Fredk. de Bary & Co.,	Mumm's Extra Dry,	52,011	47,105
Charles Graef & Co.,	Pommery & Greno,	41,425	42,933
Kessler, Behringer & Co.,	Moet & Chandon,	32,092	33,208
Hartmann & Hubbard,	Dry Monopole,	12,597	10,930
John Osborn, Son & Co.,	Piper Heidsieck Sec,	11,298	22,026

Considerable comment might be made and quite a number of reasons given for the apparent popularity of some brands over others, but we refrain.

## ADULTERATION.

## THE BLACK PEPSIN FRAUD.

The machinery of government is a cumbersome affair. There are departments for correction of many abuses and evils, but there are other departments which permit them to exist. A striking fact in support of this homely statement is seen in the continued advertising of fraudulent preparations and the distribution of circulars concerning them through the Post Office Department, while the Department of Agriculture is engaged in exposing and denouncing them. It is apparently a case of the left hand not knowing what the right hand does. The mails are being used for distribution to the American citizen, chiefly of the farming and pharmaceutical class, advertising circulars, stating that by the use of Black Pepsin, Compound Extract of Salix, Electrofied Silver, etc., wonderful results may be achieved and the pockets of the consumer presumably lined with coin of the realm. Within but the past six months numerous have been the exposures of frauds of this ilk, but so long as their sponsors can avail themselves of the great machinery of the United States mail (apparently in violation of the restrictions covering "fraudulent use") little can be done to wipe them out.

Black pepsin is a somewhat mysterious article put up by a company (or possibly companies) which seems to have no ties of home, but is perfectly willing to change its post office address as occasion requires, for we find it at one time hailing from Ohio, at another from Canada. Black pepsin itself is chameleon-like in nature. It may be a brick-red powder mixed with a white crystalline powder, or it may be a pinkish powder, in some cases approaching a black; but there is no variation in its price, which is invariably \$1 per ounce, nor in its intrinsic value, which is just as invariably nil. Black pepsin, it is claimed, will enable the farmer to make twice as much butter from a gallon of cream as in the usual way. It will not do this, though it will permit and facilitate emulsifying the butter fat with the casein and other solids of the milk and incorporating a considerable percentage of water, but the resulting product is very far from being butter. Chemical analysis of black pepsin shows it to be, in the main, a mixture of salt, annatto, and rennet (or pepsin) and other organic matter (starches, etc.). Black pepsin is one of the worst of frauds, but there are plenty of farmers who have little conscientious scruples concerning its use, and there are druggists, both retail and wholesale, who have little hesitation in dealing in it, even though they presumably know its nature. The so-called butter which it produces is mighty poor stuff, analysis disclosing 40 to 50 per cent of water, the remainder being an indiscriminate mixture of fat, curd, etc., the mass having a tendency to separation, decomposition, and rancidity. Another butter fake is the Gilt Edge Butter Compound, which is 70 per cent sodium sulphate, the remainder a very poor quality of pepsin and other organic matter.

Compound Extract of Salix, distributed by the black pepsin frauds, and recommended as a powder for preserving fruits and vegetables, is wholly salicylic acid, slightly colored, perhaps, to disguise its true nature.

Electrofied Silver, originating with the same concern, and advised for plating articles without a battery and without experience, is without doubt a mercurial amalgam, and is a striking example of how freely, in this country, the vender



of poisonous articles is allowed to bring them to the notice of the trade.

But it makes little difference what the composition of any of this brood of frauds, they should be weeded out on the ground that their intent is deception, to admit of palming upon the customer something other than he expects. The use of the United States mails to further their projects is unquestionably illegal and, if the secular and professional press will but call attention to these abuses, it will prove the clipping of the tiger's claws. If the majority of people were honest, it would be hard for these fakes to gain a livelihood; but, from the success which seems to attend their appearance, it is apparent that there are quite a number of people who are dazzled by the promise of great profits made by unlawful means. It is very strange the peculiar conception of honesty which some people have.—*Pharm. Era*.

#### BUTTER.

A circular, entitled "Nostrums for Butter-making," recently issued by the United States Department of Agriculture, gives an interesting account of attempts to deceive the public by the sale of preparations purporting to increase the yield of butter from a given amount of milk. The officers of the department express, naturally, some dissatisfaction at the readiness with which farmers have taken up with the fraud, not only because it must appear that the use of any such preparation is dishonest; but, with the information that has been liberally afforded by the bulletins of the department, any intelligent agriculturist can learn that no more butter-fat can be obtained from milk than exists in it. It appears from the circular that most of these preparations are arrant humbugs. One form, widely advertised under the name of "black pepsin," varies in composition, some samples consisting of common salt, annatto, and a little rennet, while others are mixtures of pepsin and sugar.

It is worthy of note that in the extended discussion of food adulteration of late years, butter has not received much attention from sanitarians. Milk, alcoholic beverages, and baking powders have caused the outlay of much breath and printer's ink, but even the enormous development of the oleomargarine industry has been met by opposition from commercial rather than from sanitary interests. The ears of health officers have remained dull to farmers' recitals of the evils that attend the use of substitute butter. It is true that most repressive enactments relating to this subject have either in the title or preamble assumed an intention to protect the public health, but this is merely a legislative way of putting these things to avoid conflicts with court decisions.

This indifference need not be a matter for alarm, for while oleomargarine is not a perfect substitute for butter, and may never entirely replace it, it is, as now manufactured, apparently not unwholesome, and, therefore, not an object of sanitary restriction.

A more serious matter is the skillful adulteration of genuine butter, by the use of some of the "nostrums" noted, or possibly by methods not yet known to the authorities. The result is the production of a commercial article containing an excess of water, sometimes over 40 per cent, while good butter will not contain over 10. Such an article is spongy, and becomes rancid readily. It is, of course, a great fraud on the consumer. Butter of this kind is often sold in Philadelphia, especially among the poorer population. Indeed there seems to be an organized system for its

manufacture and sale. It will, doubtless, be difficult to stop such a practice. The product cannot be considered unwholesome, except by an extreme construction of the term, and as water is a normal ingredient of commercial butter, the issue must be made on the percentage present. No legal standard of percentage exists in this State, and it might be very difficult to set one up in an individual case to the satisfaction of a jury. It is, however, of some interest to know that systematic fraud is occurring frequently with regard to an extensive and important food product.

If efforts are made to secure a general law against food adulteration at the next Legislature, it will be well for those interested to bear in mind that the substitution of oleomargarine is not the only fraud that is practiced by the purveyor of butter, and to provide for a minimum percentage of permissible fat.—*Medical News*.

#### ADULTERATED ARTICLES OF FOOD.

In an article read before the State Sanitary Convention at San Francisco, Dr. Winslow Anderson made some statements with respect to food adulterations that are appalling. Dr. Anderson has done a great deal of work in his own laboratory, and this is what he says:

"Coffee, now one of the most universally used of all beverages, excepting, perhaps, tea and beer, is usually abominably adulterated. It would seem difficult to sophisticate coffee, but it is not. A very fair cup of coffee is made from black walnut sawdust, caramel and roasted and browned horse liver. This mixture has been ascertained by chemical analysis to be in extensive use. Ground coffee and hotel decoctions often contain roasted and ground peas, beans, potatoes, carrots, corn, rye, and oak bark, whilst chicory is seldom absent. This chicory, by the way, is itself adulterated with roasted wheat, rye, beans, acorns, carrots, parsnips, beet root, baked livers, venetian red, colored earths, oak bark tan and sawdust. Coffee grounds from large hotels have been known to be gathered up, carefully dried and remixed with adulterates and chicory, and sold again as pure coffee. So much for ground coffee."

Yeast powder is a substance that requires universal scrutiny. Many brands that he has examined contain ammonia, alum, plaster of paris, cream of tartar (which is of itself adulterated with alum, chalk and terra alba). Is it any wonder that people suffer with indigestion and dyspepsia when their stomachs become coated with plaster of paris.—*Dietetic Gazette*.

#### ADULTERATED BEER.

Dr. Anderson says that one of the worst adulterated articles in general use as a beverage—and we must admit that it is in very general use—is beer. Instead of being a brew of malt and hops costing one-tenth of a cent per glass and selling for ten cents per glass, thus making ten thousand per cent—quite a reasonable profit—beer is often found adulterated with cocculus indicus, capsicum, ginger, quassia, wormwood, calamus root, caraway and coriander seeds, coperas, sulphuric acid, cream of tartar, alum, carbonate of potash, ground oyster shells, nuxvomica, picrotoxin, and strychnine. These articles, presumably, do away with malt and hops, make a stronger beverage when mixed with water and two to eight per cent of alcohol, thus making the profit one million per cent instead of ten thousand per cent. Dr. Anderson has seen several people "crazy drunk" on beer, and when

one considers the picrotoxin, cocculus indicus, and strychnine it is no wonder they lose their reason.—*Food*.

#### BREAD MADE WITH SOAP.

From a communication read to the Association of Belgian Chemists, it seems that Continental bakers are in the habit of mixing soap with their dough to make their bread and pastry nice and light. The quantity of soap used varies greatly. In fancy articles, like waffles and fritters, it is much larger than in bread. The soap is dissolved in a little water; to this is added some oil, and the mixture, after being well whipped, is added to the flour. The crumb of the bread manufactured by this process is said to be lighter and more spongy than that made in the ordinary way.

### MEDICAL.

#### THE PHYSIOLOGY OF WEARINESS.

In delivering the Rede Lecture at Cambridge on the 14th inst., Professor Michael Foster chose as his theme "Weariness." Those acquainted with Professor Foster's works and the combined breadth and caution of his generalizations will know that no one could have been selected who was more likely to do justice to a subject which has a personal interest for every worker. Commencing with a simple muscular act, the lecturer analyzed the physiological phenomena of weariness in such and in the higher work of mental operations. He clearly emphasized the two prime factors in the production of exhaustion—too rapid expenditure of capital or force and the accumulation of the products of activity in the working organ. After proving that "the nervous system was a candle which could not profitably be burned at both ends at once," Professor Foster went on to show that endurance depended largely upon "blood adequately pure," and that the readiness with which the "internal scavengers freed blood from the poison which the muscles (and other active organs) poured into it" was proportionate to the staying power of the worker. "The hunted hare died, not because he was choked for want of breath, not because his heart stood still, its store of energy having given out, but because a poisoned blood poisoned his brain and his whole body." The "humbler help-mates" of the active organism—that is, the nutritive, excretory, and metabolic functions of the body—were of the highest importance to the enduring activity of the higher executive mechanism. Professor Foster touched upon, but did not treat, the subject of "inertia or laziness," and we trust that he will on some future occasion afford us the benefit of his views upon this phase of the subject. That "unwillingness to stir" greatly increases the work of compulsory stirring, is matter of constant observation, and the "labor of love," though greater than that of compulsion, may be borne with much less effort and with much less weariness than the latter.—*London Lancet*.

#### PIXOL, A NEW DISINFECTANT.

The *Lancet's* Russian correspondent cites a report published in a supplement to the *Army Medical Journal*, by Dr. Eberman, on pixol, a cheap disinfectant introduced by Dr. Raptchevski. It is prepared by dissolving a pound of green soap in three pounds of tar and slowly adding a solution of a little over three ounces and a half of



either potash or soda in three pounds of water. At the time of using, one part of the syrupy liquid thus formed is added to nineteen parts of water, forming a 5 per cent solution of pixol, and it is used of this strength for disinfecting linen and for washing the hands; for the disinfection of dejecta per cent solution is recommended. Such a solution has been proved to be fatal to the *Bacillus anthracis*, to the bacilli of typhoid fever and cholera, and to the cocci of suppuration. It is said that the preparation costs only about two cents a pound.

#### CRYING IN CHILDREN.

The cry of children, according to Dr. E. C. Hill, in pneumonia and capillary bronchitis is moderate and peevish and muffled, as if the door were shut between child and hearer. The cry of croup is hoarse, brassy, and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus, and tubercular peritonitis are manifested by moaning and wailing. Obstinate, passionate, and long-continued crying tells of earache, thirst, hunger, original meanness, or the pricking of a pin. The pleuritic is louder and shriller than the pneumonic, and is evoked by moving the child, or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiratory part of the cry grows weaker toward the fatal end of all diseases, and the absence of crying during disease is often of graver import than its presence, showing complete exhaustion and loss of power. Loud screaming sometimes tells of renal gravel.—*Ontario Medical Journal*.

#### SQUINT IN CHILDREN.

The editor of the *Kansas Medical Journal* says: Squint in children should be corrected early in life. If let go for a number of years there is apt to be functional impairment of the retina due to imperfect visual impressions conveyed to the nerve centers. An error of refraction may be the cause of imperfect retinal images. Correct the error and the development of the retina continues and the squint is corrected.

#### A MODIFIED CANNON-BALL TREATMENT OF OBESITY.

Dr. Felkin of Edinburgh uses an india rubber ball, three and one-half inches in diameter, almost filled with five and three quarter pounds of shot, in the treatment of chronic constipation, anæmia and obesity. The patients are instructed to roll the ball from right to left round the abdomen five or ten minutes night and morning. One of his patients had lost ten inches in girth after five months regular use of it. A rather smaller ball with a less quantity of shot he finds very useful in inducing a regular action of the bowels in young girls, who so frequently suffer from habitual constipation; this plan obviated the need for constant dosing.

The Creator Knows.—“Doctor,” said the patient, “I believe there’s something wrong with my stomach.”

“Not a bit of it,” replied the doctor promptly. “God made your stomach and He knows how to make them. There’s something wrong with the stuff you put in it, may be, and something wrong

in the way you stuff it in and stamp it down, but your stomach is all right.” And immediately the patient discharged him.

The Liver, Not Flowers.—Buxom Widow (at evening party)—Do you understand the language of flowers. Dr. Crusty?

Dr. Crusty (an old bachelor)—No ma’am.

Buxom Widow—You don’t know if yellow means jealousy?

Dr. Crusty—No ma’am. Yellow means biliousness.

Affable but very bow-legged shop assistant—Walk this way, madam—Old Lady. Why, bless me, man; I couldn’t walk that way if ye was to give me the whole shop.

#### INVENTIONS, SCIENCE, ETC.

##### SALT LOSING ITS SAVOR.

READER, St. Louis:—I send you the inclosed quotations from well known works showing that salt *can* lose its savor.

“Salt used in Eastern countries was impure—mixed with impure or earthy substances, so it might (by exposure) lose its saltiness.”

“It is a well-known fact that the salt of this country (Palestine), when in contact with the ground, or exposed to the ground, or rain, become insipid and useless. It is not only good for nothing itself, but it actually destroys fertility wherever it is thrown; and this is why it is cast into the streets. So troublesome is this corrupted salt that no man will allow it to be thrown onto his field, and the only place for it is the street—there to be trodden under foot of men.”

“Maundrell, near Aleppo, found salt which entirely lost its savor, and same abounds at Usdain and other localities at south end of Dead Sea, in Palestine. ‘Indeed, it is a well known fact the salt of this country, when exposed to sun and rain, does become insipid and useless.’”

With all due respect to the eminent authorities quoted, we still say, and will be supported by every chemist and physicist in the world, that chloride of sodium can not and does not lose its taste any more than it ever loses its other chemical and physical characteristics. It may be dissolved in water, and may be recovered identically the same in shape (mode of crystallization), in taste, in chemical reactions, a thousand, a million, or millions of millions of times.

The first quotation above (that from Burnes) gives a hint at the true nature of the phenomena noted in the other quotations. Sea salt is contaminated with sodium, sulphate, calcium sulphate, magnesium sulphate, and magnesium chloride. When exposed to the atmosphere the rains wash out the magnesium chloride, the sodium chloride and sulphate, and the magnesium sulphate, the earth drinks up the solution, and there is left on the surface the nearly insoluble calcium sulphate. Calcium sulphate constitutes, when found in natural deposits, the well known mineral gypsum, from which, by dehydration, plaster of paris is made. When regularly crystallized it is the beautiful transparent selenite. Neither of these has any distinctively salty taste. In this manner, and in it only, can the phenomena, spoken of by the writers quoted and others, be explained. In other words, the “salt” has parted with its chloride of sodium and other ingredients which gave it its distinctive taste, and is no longer “salt” in the common meaning of the word.—*National Druggist*.

Miss Backbay of Boston—No, we do not speak any more. I don’t recognize a girl who indulges in profanity.

Mr. Pitts—You don’t mean to say—

Oh, yes; I do. We were talking of Browning, and she said, Oh bother Browning!

But bother is not profanity.

Maybe not, but bother Browning is.

#### EGYPTIAN AND OTHER PIGMENTS.

Mr. W. J. Russell, F. R. S., in the course of a lecture at the Royal Institution on Egyptian pigments, under the chairmanship of Dr. William Huggins, said that it is useful in these days to know what pigments have resisted the action of air and light from 4,000 to 6,000 years. He had been analyzing some pigments brought from Egypt by Mr. Flinders Petrie, who had also supplied the dates at which they had been used. One of the pigments much used on the outsides as well as the insides of the ancient Egyptian temples was a red, which he—the speaker—had found to consist of 70 to 80 per cent of ferric oxide; the remainder was practically clay; it was, in short, an oolitic hematite. He had found that he could not rub this hematite down dry, but by rubbing it under water in a great heavy Wedgwood mortar, it could be brought into powder, and was then immediately ready for use without the admixture of any vehicle, for it would stick to the fingers, face, clothes, hair, or anything else, in an unpleasant manner. He put some of it in nitric acid to show that the liquid had no effect upon it; he made red hot part of a thin plate of iron painted with it; it grew darker under intense heat, but when the plate cooled, the paint resumed exactly its original color. This red, said the lecturer, is permanent and unfadable in every way.

Dr. Russell then drew attention to a yellow ochre, unfadable, and consisting of peroxide of iron combined with alumina, lime and some water—in short, a colored clay. This yellow is changed permanently by heat into a kind of burnt sienna color. He next exhibited an orange color, made by Nefermat about 4000 B. C. The said Nefermat was one of the first pyramid builders; he also erected temples. The figures in his colored work were cut into the stone; they were likewise undercut and sized, after which the hollows were filled in with the colors in a pasty state. He mixed his colors with gum, and in one of his inscriptions he said that “he made it for his gods in unspoilable writing.”

The earliest blue color used by the ancient Egyptians was chessylite. In later times they found out how to manufacture a blue which he, Dr. Russell, had also managed with much difficulty to make; it was a “frit,” not much differing in constitution from plate glass, as shown by the following table:

Constituents.	Egyptian Blue Frit.	English Plate Glass.
Silica.....	88.65	76.30
Soda .....	0.81	16.55
Copper oxide.....	2.09	.....
Lime.....	7.88	6.50
Iron oxide, alumina, etc.....	0.57	0.65
Total .....	100.00	100.00

The white pigment the ancient Egyptians used was a sulphate of lime, says a writer in the *Paint, Oil and Drug Review*, commenting on Dr. Russell’s lecture, which had a greasy texture and was insoluble. They also used a pale pink color, which consisted of 99 per cent of sulphate of lime, mixed with an organic substance, which he had discovered to consist of alizarine and madder purple. He exhibited upon the screen the absorption spectrum of a weak solution of the ancient organic substance, and the bands of purpurine appeared.



A word of criticism may here be added. Sulphate of lime is sensibly soluble in water to the extent, roughly speaking, of about one grain to the ounce, hence the white pigment mentioned used in the dry atmosphere of Egypt, and inside the temples, may prove less durable in our own climate outside buildings. This remark is made as a caution to those who might think of using sulphate of lime as a pigment to be exposed to the weather, outside buildings, or other structures, because it has stood so well in Egypt.—*Ph. Era*.

## MISCELLANEOUS.

### NO MARRIAGE IN CHURCH FOR HIM.

"If I ever get married in church again you can call me a goat!" said a bashful man the other day.

"What's the matter now."

"Matter enough," he retorted; and he seemed to get mad as he thought of it. "I was married not long ago, and as my wife's parents were pillars of the church, it had to come off there, so they thought. Well, some repairs were being made in the church, so the marriage took place in the Sunday-school room. There's where the whole trouble came in. We stood on the platform where the superintendent's desk stood, and before the minister got started I noticed a great many people smiling in the audience. I didn't know what to make of it. They all seemed to be looking over my head. I never said anything till the thing was done; then I turned around and looked up. What do you think I saw? One of those confounded mottoes hanging right over our heads, and it said, 'suffer little children to come unto me.' Isn't that enough to make a man mad?"—*Toledo Blade*.

### THE REVEREND UNTRUTHFUL AGAIN.

Perhaps not one of those sententious sayings usually termed proverbs is so frequently given the lie by the actual experiences of life as that oft quoted stanza about "truth crushed to earth," etc., and how "error, wounded, writhes in pain, and dies amid her worshipers." The fact is that it is almost impossible to stop a lie after it once gets a start, especially if that lie be one of the sort that was originally told to help out some good cause or some religious belief—such a lie, for instance, as the following, which we clip from the *Australasian Journal of Pharmacy*:

"The chemical analysis of the liquors used by people who drink shows (writes a contemporary) that they drink alcohol, arsenic, alum, aloes, bitter almonds, blood, chalk, cherry-laurel water, coculus indicus, copperas, gypsum, henbane, isinglass, lime, lead, logwood, nox vomica, oil of vitriol, oil of juniper, oil of turpentine, tobacco, sugar of lead, resin, etc."

A good many of our readers will recognize the paragraph as one originally taken from a sermon preached by a New York temperance agitator about two years ago. The list of things "found" by this individual in his "chemical analysis" (which he subsequently admitted that he never made) was much longer and embraced a more heterogeneous range of articles, but the authority is the same. The utter absurdity of the thing should prevent a pharmaceutical journal from reprinting it without comment; but it doesn't, as it appears. The *National Druggist* showed up the lie at its first appearance in print, and the AMERICAN ANALYST apparently clinched the job by the publication of an interview with the veracious "chemist," in which the latter virtually admitted that he lied—but the item continues to be published as truth, and we suppose will go the rounds of the press in *saecula saeculorum*, or until the press in mass becomes sufficiently educated to drop it. We fear the time will never come.—*National Druggist*.

### BERNHARDT'S BALM.

For a long time it has been popularly supposed that Sarah Bernhardt was possessed of some secret balm which preserved her youth, but the great actress has denied such rumors and has claimed that it is only by rational care of herself that she has perpetuated her fresh looks. Lately, however, she has confessed to a rejuvenator from which she gets unfailing refreshment. It is a liquid in which she is bathed from head to foot—an eau sedative, Madame Bernhardt calls it. The prescription is as follows: Two ounces spirits of ammonia, two ounces spirits camphor, one and a half cups sea salt, two cups alcohol. Put all into a quart bottle and fill with boiling water. Shake before using. The method of application is very simple. She is bathed with a soft sponge dipped in the undiluted liquid and dried with the slight friction of a smooth towel. After the bath the stiffness and soreness of fatigue is all gone; the circulation is stimulated, and a gentle languor is induced, followed by a desire to sleep. Such is the meat on which our Cæsar feeds. Whether other women can be kept fair and unwrinkled by such means is a question left for experiment to decide.—*The Formulary*.

### HAPPINESS.

The best definition of happiness is that given by a French woman, who says it is a state of constant occupation for a desirable object, with a sense of continued progress. It is this condition which makes reformers the happiest people in the world.

When a man talks in a telephone what he says goes.

# SCOTT'S EMULSION

## OF PURE COD LIVER OIL WITH

## HYPOPHOSPHITES OF LIME AND SODA.

THE STANDARD EMULSION OF COD LIVER OIL THROUGHOUT THE WORLD.

A BEAUTIFUL CREAMY MIXTURE—ALMOST AS PALATABLE AS MILK.

Having much greater remedial power than the crude Cod Liver Oil, without any of its nauseating effects. Its PALATABLENESS, EASE OF DIGESTION, and long tolerance by most sensitive stomachs as well as its reliable therapeutic effect, has given it special favor with the medical Profession, and receives their unqualified endorsement and support.

Possessing as it does the tonic and stimulating properties of the Hypophosphites in combination with the strengthening and fattening qualities of the Cod Liver Oil—gives it a remedial value in WASTING DISEASES, ANÆMIA or IMPOVERISHED BLOOD, EMACIATION and CONSUMPTION—unequalled by any single or combined remedy in existence. The rapidity with which delicate children fatten and grow strong on this palatable Emulsion, is very remarkable.

Samples will be sent free except express charges to any wishing to try this preparation. For sale by all druggists.

SCOTT & BOWNE, New York.



## HEADACHE CURES.

New York seems to have broken out with a rash of headache cures—in elevated and surface cars, on ferryboats, at store fronts and on dead walls, on "sandwich" men and in the advertising columns, their insinuations upon public attention are as multifarious as the repetitions of the monogram "V. R." in the ultra loyal city of Toronto during a Fenian scare. Each is affirmed better than all the others for the cure of all imaginable sorts of mental depression, nervous prostration and cerebral pain. Supposably, all the sufferer has to do is to swallow some fizzing stuff, and then, if he waits long enough for the effect, the headache will go away—or it won't. If it does not, he has his choice among many other things that fizz, and long before the list is exhausted the headache will have done its worst, and quit of its own motion. Unfortunately, headache is not, in most cases, a thing to be so easily banished. It is generally simply a symptom, and treatment of symptoms can at best be only palliative, never curative.

Headaches, in perhaps nine cases out of ten, are the direct results of stomachic, hepatic or intestinal derangement. Allow your bowels to become constipated or your liver torpid, and at once you have in active operation baneful forces

# Indigestion

## Horsford's Acid Phosphate

Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

Dr. W. W. Gardner, Springfield, Mass., says: "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

Descriptive Pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

For Sale by all Druggists.



**Milk Cans,** pans, churns, bottles, every thing which is used for milk, even down to the baby's bottle—these are things for which you need **Pearline**. With **Pearline**, they're cleansed more easily, more quickly, more economically, and more thoroughly, than with anything else known. The people who know most about milk say just that. We can't afford to print all the testimonials we hold. They're free expressions of opinion—in conventions, in papers, everywhere where milk folks have a voice. Their enthusiasm about **Pearline** is genuine. And it's natural. For all kinds of washing and cleaning, nothing equals **Pearline**.

**Beware**  
send it back.

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as **Pearline**." IT'S FALSE—**Pearline** is never peddled, if your grocer sends you an imitation, be honest—**JAMES PYLE**, New York.

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for the distribution of positively toxic elements, germs of disease and death throughout your entire system. The bile, instead of going, as it should, to nourish the brain and assist the process of excretion, is thrown back into the stomach, where it enters upon a course of production of practically poisonous effects. The assimilative system, perverted by the impure matter presented for its absorption, at the same time carries into the blood elements polluting the life current and weakening all the vital forces. One of the earliest warnings given by kind and vigilant Nature, when such pernicious conditions occur, is the headache. Sedative medicines, things to deaden the sensibility of the nerves, may temporarily silence her call for help, but while they act the evil causes are still operating and her next demand for attention is sure to be louder, proportioned to the increasing magnitude of the danger. The only radical cure possible is by removing the obstructions and remedying the conditions which have caused the headache. Nothing is more effective for this purpose than Ayer's Compound Cathartic Pills. They are not only potent as a purgative, but of exceptional merit for their prompt and thorough service in stimulating and strengthening the liver and kidneys. Being entirely vegetable in their component parts, they leave no ill consequences of their use, such as too often result from mercurial preparations, and their freedom from drastic effect renders them peculiarly desirable for the relief of even the most delicate persons.

\$100 REWARD \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages and that is catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of Testimonials.

Address F. J. CHENEY & Co., Toledo, O.

Sold by druggists, 75c.

It is time wasted to argue with a doubt. Kick it out.

**Fine Table Wines**  
From our Celebrated Orleans Vineyard.

*Grand Harpethy & Co.*  
Producers of the  
**ECLIPSE**  
CHAMPAGNE,  
530 Washington St.  
SAN FRANCISCO.

GROWERS OF

Chateau d'Orleans, the highest grade Claret made in America.  
Cabernet Blend, the richest and finest of Table Clarets.  
O V Chablis, possessed of all the delicate pungency of its French counterpart.  
O V Sauterne, with the exact character and Seve of imported Sauternes.  
The Chateau d'Orleans and O V Chablis are sold in glass only.



## THE CORINTH CANAL.

The canal across the Isthmus of Corinth, connecting the Ionian and Aegean seas, or, more properly, the Corinthian and Saronic gulfs, was formally opened on the 6th of August. The event was celebrated by an imposing ceremony. Greek and foreign men-of-war and merchant vessels to the number of thirteen passed through the canal and back without obstacle, thus proving its practicability. His majesty the King of Greece made a short and earnest dedicatory address, in which he gave great credit to Gen. Turr, the modern projector of the enterprise, and to A. Matsas, its engineer.

The feasibility of piercing the Isthmus of Corinth by a canal was conceived 600 years before the Christian era.

It was Nero who came nearer to effecting the modern realization than any other of the ancients. In the year 67 he put 6,000 Jewish prisoners and other laborers at work upon the isthmus. These were directed with so much zeal and energy that the successful termination of the task was in sight from its very beginning. But a revolt against Nero followed soon after ending in the death of the tyrant and the abandonment of his projects.

In 1881 Gen. Turr was granted by the Greek government the concession of digging a canal through the Isthmus of Corinth. The aid of French capital was enlisted, and the modern canal was begun over the route chosen by Nero. As Gen. Turr himself says:

"It is the canal commenced by Nero and abandoned during eighteen centuries that we have finished today, in accordance with conditions and dimensions suitable to modern navigation."

The original company which Gen. Turr organized passed out of existence, and another one

was formed by him. The capital of the present company is 5,000,000 francs, divided into 10,000 shares of 500 francs each. It is estimated that the annual transit through the canal will amount to 4,500,000 tons, paying 1 franc from the Adriatic and 50 centimes from elsewhere. One franc will be charged for each person. The canal is 6,540 meters long, 21 meters wide at the bottom, and 21.6 meters at the surface, and 8 meters deep. The lease extends for ninety nine years, and at its expiration the canal becomes the property of the Greek government on the payment of 5,000,000 francs to the company.

The Corinth canal will abridge by 185 nautical miles the route of vessels from the Adriatic bound for Constantinople, and will effect a saving of 95 miles in the case of vessels from Mediterranean ports. It will obviate the necessity of making the dangerous passage around Cape Matapan, and is expected greatly to facilitate commerce between Europe and the East. Austrian commerce, and chiefly the port of Trieste, will profit by it. The canal is not yet open to general traffic, but will be in a few weeks.

## GOOD AND BAD "ADVICE" TO A BOY.

In one of the large railroad offices in this country is a comparatively young man, who is at the head of a large department. When he entered the service of the company, five years ago, he was green and awkward. He was given the poorest paid work in the department. The very first day of his employment by the company a man who had been at work in the same room for six years approached him and gave him a little advice: "Young fellow, I want to put a few words in your ear that will help you. The company is a soulless corporation that regards its employes as so many machines. It makes no differ-

ence how hard you work, or how well. So you want to do just as little as possible and retain your job. That's my advice. This is a slave pen, and the man who works overtime or does any specially fine work wastes his strength. Don't you do it." The young man thought over the "advice," and after a quiet little struggle with himself he decided to do the best and the most he knew how, whether he received any more pay from the company or not. At the end of a year the company raised his wages and advanced him to a more responsible position. In three years he was getting a third more salary than when he began, and in five years he was head clerk in the department; and the man who had condescended to give the greenhorn "advice" was working under him at the same figure that represented his salary eleven years before. This is not a story of a goody-goody little boy who died early, but of a live young man who exists in flesh and blood to-day, and is ready to give "advice" to other young men just beginning to work their way into business. And here it is: "Whatsoever thy hand findeth to do, do it with thy might."—*Youth's Companion*.

A story is told of a woman on the witness stand in a French court. She was asked her age, and answered that she was thirty years old.

"But" said the magistrate, "did you not tell me you were thirty when you appeared before me two years ago?"

"I think it very likely," she replied, smilingly acknowledging her falsehood, and not at all abashed. "I am not one of those women who say one thing to-day and another thing to-morrow."

Willful Misinterpretation.—Belle—I can't bear to think of my thirtieth birthday.

Alice—Why, dear—what happened?

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The Best Reference Book Printed. Over 1300 Topics Treated.

The edition of 1894 has been prepared with an extra force of editors. It will have a novel and attractive cover, wide margins, new and improved binding; is printed on good paper, and contains more and better information than any book of a similar nature published.

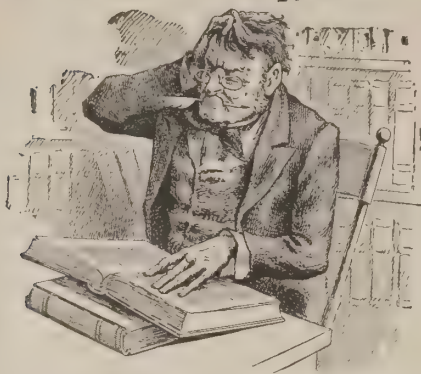
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Copy or cut this out and send to AMERICAN ANALYST,  
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Please deliver to me the entire set of 20 volumes of Revised Encyclopedia Britannica, as above described, together with your Dime Savings Bank, for which I inclose One Dollar, and further agree to remit 10 Cents a day (remitting the same monthly) until the remaining \$9.00 is fully paid.

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## TORTURE DANCE.

The press of the country recently gave graphic—horribly graphic accounts of a "torture dance" exhibition given for the enjoyment of spectators in connection with the Columbian World's Fair. In reading these accounts one can hardly believe that this brutal exhibition occurred in the evening of the nineteenth century, and if so that it ever occurred in a civilized, or Christian country. It is not so strange that there were found persons so depraved as to witness, and be entertained by

such a spectacle. When a human being lays aside his humanity and becomes brutish there is scarcely any depths too deep that he cannot reach them, and revel in them.

It is strange the directors of the Fair sanctioned or even permitted it. It could not have been for the money there was in it. It must have been that they desired, by a striking and never-to-be-forgotten object lesson, to illustrate a grand moral fact—the contrast between the barbarities of savage life and the humanities of this enlightened age. It must have been from a laudable desire to teach a great and impressive hygienic truth—to give an exhibition of the wonderful powers of endurance possessed by those who live nearest to nature's heart—unimpaired by the vices of civilized life.

The directors must have been impelled by a lofty ambition to illustrate what the conditions of life would be unrestrained by such beneficent organizations as the "Society for the Prevention of Cruelty to Animals."

By the way, where was this society then, and what have they done about this "torture dance?" While our righteous soul has been greatly vexed over this disgraceful and demoralizing, as well as sickening entertainment, we are glad to try to believe that mercenary considerations had nothing to do with permitting it, and that the like will never recur even in savage life.—*Iowa, Mo., Bulletin.*

## TO KEEP WEEVILS FROM GRAIN.

Bisulphide of carbon is one of the worst smelling chemicals there are. A new use for it has been discovered which ought to make it very popular and of large consumption. The peculiar and highly inflammable gas evolved from this powerful and volatile fluid has a downward as well as an upward tendency—a circumstance which renders its use for the destruction of weevils, insects of all kinds, vermin, etc., of the highest practical utility.

An experiment was recently made in the following manner: A small bottle of the fluid, about one pound, was placed on the floor of an empty 1,000-bushel bin, with a small piece of muslin cloth placed loosely on top of the bottle instead of a cork; over all was placed a broken box so as to protect the bottle from being upset or broken, and then the bin was filled to its utmost capacity with corn. On the top of the pile another bottle was placed having the same arrangement as the one buried beneath the grain.

The result was highly satisfactory. The live weevils admitted from the field while housing the grain were utterly destroyed, and none further appeared. A thousand bushels of corn were in this case protected from weevils and vermin of all kinds, rats and mice fleeing precipitately from the deadly odor of the bisulphide, for a very trifling cost. It is estimated that the loss to farmers through the destructive methods of the weevils alone, last year amounted to \$1,000,000.

## PICKING NUTMEGS.

The children of South America and tropical islands pick nutmegs almost as soon as they can walk. Gathering nutmegs is something like gathering chestnuts. Nutmeg trees are planted in groves. The trees are twenty feet apart, and have long green leaves, very dark and glossy.

The nutmeg is enveloped in a husk about the size and shape of a rusty-coat apple. When perfectly ripe the husk splits and a nut falls out. The kernel of the nut is the nutmeg of com-

merce. It is beaten from the husk by children, who climb the nutmeg trees and trash the branches with poles. The air is sometimes so heavy with perfume that the young nutmeg gatherers are overcome by its heaviness and have to be borne from the grove on the shoulders of their companions.—*Spice Mills.*

## CHANGES WROUGHT BY CHEMISTRY.

Chemists turn scrap iron into ink, old bones into lucifer matches, the shavings of the blacksmith's shop into Prussian blue, fusel oil into oil of apples and pears, the drainings of cow houses into fashionable perfumery, beggars' rags into new pilot coats, cesspool filth into ammonia, and tar waste into aniline dyes and saccharine. In Paris, they first utilize rats to clear the flesh from the bones of carcasses, then kill the rats, use up their fur for trimmings, their skin for gloves, their thigh bones for toothpicks, and their tendons and bones for gelatine wrappers. These are a few of the things *Iron Industrial Gazette* names among the products converted into use by the chemist and inventor.

A young lieutenant in a line regiment recently met with a sad rebuff at Portsmouth. The lieutenant was parading in full uniform one day and approached a sentry, who challenged him with "Halt! Who goes there?" The lieutenant, with contempt in every lineament of his face, expressed his feelings with an indignant "Ass!" The sentry's reply, apt and quick, came: "Advance, ass, and give the countersign."

# Kitchen Extension.

University Extension is good, but Kitchen Extension is better. When science strikes the kitchen it strikes home and every member of the family is the gainer.

The latest and best gift of science to the kitchens of the world is

# Cottolene

the new vegetable shortening and substitute for lard.

Every woman who has ever cooked a meal, knows that lard is disagreeable in use and unhealthy in its "richness" as we call it.

Cottolene is a most satisfactory substitute—clean, delicate and far more economical. Try it for yourself. Refuse all imitations.

Sold in three and five pound pails.



Made only by  
**N.K. FAIRBANK & CO.,**  
CHICAGO,  
St. Louis, Montreal,  
New York, Boston,  
Philadelphia, San  
Francisco, etc.



## THE GROWTH OF ADVERTISING.

One of the most interesting phases of the growth of business in this country has been the development of advertising. Still it may be said that advertising in this country is still in its infancy.

To-day there are a number of concerns which spend anywhere from \$300,000 to \$600,000 a year in advertising in this country alone. No claim is made here for the success of advertising unless the article possesses merit. In selling an article of merit, legitimate advertising paves the way for a ready success, and newspaper advertising is unquestionably the best method to employ. The newspapers are the best means for the distribution of advertising matter, costing less in proportion to the number of people reached and causing the least trouble.

In 1876 there was organized the firm of Scott & Bowne, in New York City. The members of the firm—Messrs. Alfred B. Scott and Samuel W. Bowne—had for three years previous to that time been experimenting with cod-liver oil and had succeeded in making an emulsion which came up to the standard fixed by physicians. Cod-liver oil had been recognized by the medical world for years as the most nourishing of foods and the possessor of unusual remedial properties. There was no effort made to conceal the formula

or method of its manufacture, as Messrs Scott & Bowne were anxious to co-operate with physicians and improve their emulsion in every way possible. Wherever they went they introduced their unique trade mark, of a Norwegian fisherman carrying a big codfish on his back, into the newspapers.

Several years ago the firm bought property fronting on Pearl and Rose streets, New York City, and last spring there was completed the new Scott & Bowne Building, which is now the home of Scott's Emulsion. This building is twelve stories high, and is the most perfectly equipped building of its kind in the world.

The advertising department in New York is personally superintended by Mr. Scott himself. Mr. Bowne attends to the financial part of this great business, and thus the responsibility is divided evenly between the members of the concern.

## HE WAS LIKE THE REST.

She was a handsome blonde, leading a pet dog up Fifth avenue. An exquisite masher smiled a chimpanzee smile as she passed the Windsor Hotel, and said:

"Madam, I envy your dog."

"So do all the other puppies," was her quick response, and he pulled up his coat collar and took the nearest side street.

Pat had been suffering from a severe and prolonged attack of la grippe. "Well, Pat," said a friend meeting him on the street, "I hear you've been having a pretty hard time of it." "Faith an' I have," said Pat. "An' it's the right name they give to it, too, for when it takes holt of a man it's no mind to let go. It took me thraa wakes to fale better after I was entoiroyly well."

"Johnnie," said the Sunday school teacher, "do you know where the little boys go who fish on Sunday?"

"Why, of course I know where they go. You want to go with me?"

Professor of Chemistry—Gentlemen, I hold in my hand a vial of soda. What chemical shall I combine with it to produce a valuable article of commerce?

Bibulous Student—Br-r-randy!

A traveler, recently returned from the Holy Land, says that part of the way to the Mount of Olives is disfigured by advertisements of Dublin stout, and bands play dance music Sundays in the Garden of Gethsemane.

"Who held the pass of the Thermopylæ against the Persian host?" demanded the teacher. And the editor's boy at the foot of the class said, "Father, I reckon; he holds a pass on every road in the country that runs a passenger train."

# KINGSFORD'S OSWEGO STARCH

The Standard of Excellence.

"PURE" AND SILVER GLOSS

For the Laundry.

CORN STARCH

For the Table.

ABSOLUTELY PURE IN QUALITY.

ESTABLISHED 1823.

ALEX. YOUNG CO., LIMITED,

DISTILLERS OF

## Y.P.M. WHISKIES

DISTILLERY, - Nos. 408, 410, 412 and 414 South St.  
MALT HOUSE, Nos. 416, 418, 420, 422 and 424 South St.  
STORE, - - - - - No. 700 Passyunk Ave.

PHILADELPHIA, PA.

New York Office, - - - 78 Wall Street.

FOR SALE BY

ACKER, MERRALL & CONDIT and PARK & TILFORD.

## SWIFT'S

CHOICE

## CHICAGO DRESSED BEEF

AND

## MUTTON

Can be found at all times in full supply and at popular prices at the branch houses in all the larger cities and is RETAILED BY ALL FIRST-CLASS BUTCHERS.

The trade of all marketmen and meat dealers is solicited for our Wholesale Branch Houses, and the PUBLIC MAY REST ASSURED that in PURCHASING OUR MEAT from dealers they will ALWAYS RECEIVE THE BEST.

SWIFT AND COMPANY,

UNION STOCK YARDS,

CHICAGO, ILLS.



## FOR SLEEPLESSNESS

Use Horsford's Acid Phosphate. Dr. C. R. Drake, Belleville, Ill., says: "I have found it and it alone to be capable of producing a sound and natural sleep in cases of insomnia from over-work of the brain, which so often occurs in active professional and business men."

Dr. H. M. Harlow, Augusta, Me., says: "I regard it as one of the best remedies in all cases in which the system requires an acid and a nerve tonic. I have used it freely with most excellent results."

"I would get up and give you my seat, miss," said the jolly-faced man in the crowded street car, "but I don't feel it to be my duty. I am old enough to be your father."

"You hold your age and your seat remarkably well, sir," replied the young woman, grasping a strap as the car lurched.

That a single corporation means bread and butter to a small army is readily realized when it is borne in mind that there were at the close of its fiscal year 14,635 names on the payroll of Pullman's Palace Car Company.

"How is it your little baby sister goes to sleep as soon as your father takes her?"

Little four-year-old—I 'spec it's 'cause she'd rather do that than stay awake and hear him sing.

"Did you ever see a ghost?"

"Once."

"Were you scared?"

"Was I scared? Was I? My false teeth were in a glass on a table three feet away from the bed, and they actually rattled so loud they woke the neighbors."

"What did de doctah say ailed yer mostly, Bill?"

"He 'lowed dat I had a conflagration of diseases. Fust, de salvation glan's don't insist my indigestion; dat makes a torpedo liver, cose I'm liable to go off any minute."

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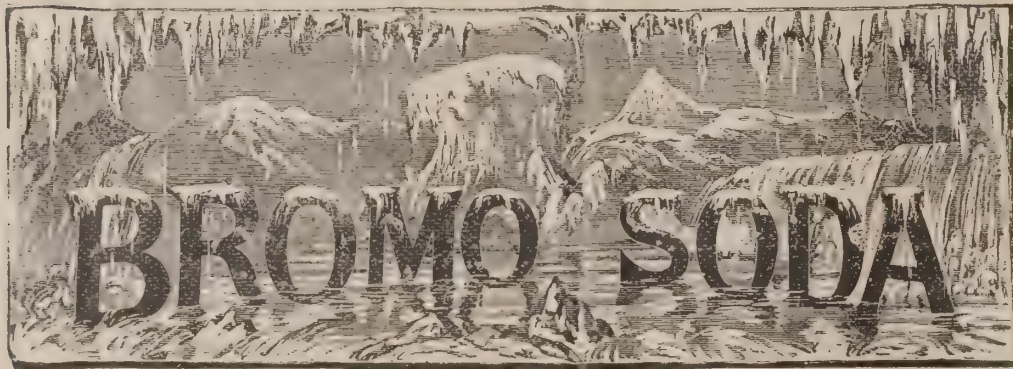
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ADDRESS ALL ORDERS TO  
THE NEW YORK MUSICAL ECHO CO.,  
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CANVASSERS WANTED.

FOR THE SPEEDY RELIEF OF

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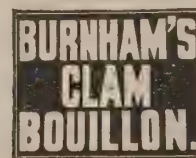
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# AMERICAN ANALYST.

## AMERICAN ANALYST.

Published 1st and 15th of each Month.

Subscription, - - - - - \$1 per year.  
Single Copies, - - - - - 5 cents.  
Subscription to Foreign Countries, - - \$1.50  
Advertising Rates on application.

PUBLISHED BY

THE ANALYST PUBLISHING CO.

H. LASSING, M. D., Editor,

No. 19 Park Place, New York

DECEMBER 15, 1893.

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### CLOSE OF VOL. IX.

Another year has nearly come to a close and with it will close the ninth volume. What the AMERICAN ANALYST has been for this year we must leave for our readers to judge, trusting to their forbearance and forgiveness for all shortcomings. We have the consciousness of having tried to do our best to furnish an interesting and instructive journal, practical and up to date on all matters relating to our specialty. For the coming year, we will have several new and interesting features, and can only promise greater painstaking and wider scope to keep the AMERICAN ANALYST as it always has been—at the head—and the only survivor, as it has always been the leader in this, our peculiar branch of journalism. We wish all our readers a merry Christmas and a happy New Year.

### CHEMIST AND HYGIENIST.

A journal called the *Chemist Trade Journal* ends an article on the use of salicylic acid as a fruit preservative thus :

"The advantages of salicylic acid in the preservation of fruit and fruit preserves may therefore be summed up as follows : If properly applied, it is always successful ; it does not communicate any unpleasant flavor to the preparations ; it is in no way injurious to the consumer, being present only in minute quantities."

In no way injurious, indeed ! In view of what the chemists of the Department of Agriculture have said, and what every reliable medical authority has written on the subject, there is no need of further comment. We cannot help but advise these chemists : "*Nesutor ultra crepidam.*"

### HARD STRAIN.

It looks like a hard strain when a body like the New York Mercantile Exchange, which one would suppose was composed of merchants and gentlemen, has to descend to the low trick of attempting to create public antipathy to oleomargarine by newspaper appeals for pity and compassion for the butter dealers, now mostly composing that body, by inserting as an advertisement in the daily papers an arraignment of names no one knows nor cares about under the pretense that they were convicted by law of selling oleomargarine. It may be true or it may not but the fact still remains that the papers which published it added "Adv." to the article, showing that they did not deem it of value in their news columns and only took it at regular advertising rates, while some decent papers refused it absolutely. What will these "butter" (?) dealers do next? They have tried in every way and never yet succeeded in convincing any sensible person that oleomargarine is an adulteration. In fact, the more they try the more the thinking part of the public will believe as we do that good oleomargarine is better than the "butter" these respectable gentlemen would foist on the market as pure dairy butter. The large and constantly growing increase in the sale of oleomargarine proves this. Such a stultification as the following advertisement in the *Evening Sun* of December 8 will but add to the public esteem of oleomargarine and distrust of "butter" merchants (?) :

The members of the New York Mercantile Exchange held another public meeting to-day for the discussion of the oleomargarine question. The committee of five appointed some time since to assist the Assistant Commissioner of Agriculture in prosecuting persons selling oleomargarine contrary to the law of this State, reported that the court records show the following arrests and convictions during the month of November :

Diedrick W. Siemann, 210 Sixth avenue, New York, arrested Oct. 30, fined \$75.

John L. Messer, 82 Fourth avenue, New York, Oct. 30, fined \$25.

Henry Stewart, 436 Ninth avenue, New York, Oct. 30, fined \$75.

Alex. Fletcher, 2358 Third avenue, New York, Nov. 1, fined \$100.

Max Dustenfield, 183 Allen street, New York, Nov. 3, fined \$25.

Max Tiger, 203 Eldrige street, New York, fined \$100.

John Harmeling, 12 Prince street, New York, Nov. 3, fined \$50.

Rudolph Wiese, 397 East Ninth street, New York, Nov. 10, fined \$50.

John Peters, 534 East Fourteenth street, New York, Nov. 10, fined \$75.

Flori Schonstein, 6 Avenue B, New York, Nov. 10, fined \$75.

Andrew Hays, 131 McDougal street, Brooklyn, Nov. 16, fined \$75.

Henry Maisler, baker, 213 Franklin street, Brooklyn, Nov. 16, sentence suspended.

Charles H. Doscher, 476 Third avenue, Brooklyn, Nov. 14, fined \$25.

Henry W. Shaer, 134 Bridge street, Brooklyn, Nov. 15, fined \$52.

Michael Marlow, 223 West Sixty-sixth street, New York, assault, fined \$10.

Fred Schneller, 864 Amsterdam avenue, New York, arrested Nov. 1, fined \$75.—*Adv.*

### THE PHILADELPHIA FOOD EXPOSITION.

The *Medical and Surgical Reporter* says : "The Retail Grocers' Association of Philadelphia have for a number of years past held annual meetings of the 'Pure Food Exposition.' The association is formed for the protection of dealer and consumer alike from adulterated food-stuffs and injurious compounds ; for the encouragement of the manufacture of pure products, and for the introduction to the public of novel and meritorious food preparations. The annual exhibition has been remarkably popular, especially among intelligent ladies who have at heart the interests of the healthy home and family.

"While the exposition is of immediate value to the exhibitors, being a most successful mode of advertising, it has a much greater, though less definite, value to the public at large in that it is an educational factor of no mean importance. The exposition will be of benefit to medical men and it will repay inspection and study. Not only are the exhibits open to free inspection, but information as to composition and methods of manufacturing is freely given. Instructions are furnished as to mode of preparation of various food articles, and liberal samples are allowed for experiment and trial. The whole exposition is a popular object lesson of the scientific production and preparation of food materials."

So far so good, but what about adulteration. Who is the judge of this? What does the committee on admission of goods call adulteration? If some reliable, well known chemist were appointed to test all these food preparations and his report were published to the public, the exposition, as all others, would be of more value to the consumer, especially if all adulterated articles were rigidly excluded ; but we fear there would be many vacant spaces.

### IS IT FOR THE PUBLIC GOOD OR POLITICS?

The following article has appeared in several daily papers :

#### "PINK OLEOMARGARINE.

"An interesting case has arisen in Minnesota involving the right of a State arbitrarily to fix by law the color of food products. The Legislature of that State not long ago enacted a statute providing that all oleomargarine and other substitutes for butter offered for sale in its markets should be colored in a certain shade of pink. One



of the largest packing companies of the West, in spite of this law, has been sending into Minnesota great quantities of oleomargarine of natural color which is a light yellow, closely resembling that of genuine butter. The State Food and Dairy Commission brought suit against the firm, and the latter has appealed to the United States courts for an order to restrain the Commission from interfering with its business. The petition alleges that the Minnesota law is null and void in that it conflicts with the fifth amendment to the federal constitution. The company contends, moreover, that to color its oleomargarine would be injurious and destructive of its character. The product, it contends, is worth fourteen cents a pound when marketed under its natural color as a food product, but if sold for other purposes would be worth only about one or two cents a pound.

"Whether a State has the power to define the color under which manufactured food products shall be sold is a novel and interesting one. If it may declare, for instance, that none but pink oleomargarine shall be sold, why should it not go ahead and announce that all substitutes for coffee shall be colored green, all imitations of lard blue, and all articles for use in place of olive oil a bright crimson? The color possibilities of such a scheme are practically limitless. With a specific color fixed by law for each article entering into domestic consumption the noble art of cooking would take on new and gorgeous hues, and the grocer's life would become a wild phantasmagoria of legalized dye stuffs."

As all law is based on common sense, the question ought not be as between oleomargarine and so-called butter. It seems to us that all pure and properly made oleomargarine as well as all pure and well-made butter ought to be sold of a natural color, while all not so made should be colored with some nasty color, for pink would not sufficiently indicate the nastiness of much of the so-called farmer's butter. The generation of good butter makers has passed away. The best butter is now obtained from butter factories. For our personal use we prefer good oleomargarine to poor butter.

## NOTES AND QUERIES.

We are desirous of making this column of service to our subscribers and wish to have them feel at perfect liberty to ask any question that may occur to them. We will be pleased to take great pains to obtain any information we may not have. If not of general interest we frequently answer these questions by mail.

For want of space, or time to investigate, many questions received remain unanswered for some time. Each query on any legitimate subject will in its turn receive proper attention. Correspondents are requested to write plainly and state their wishes concisely.

M. P. C.: What is Linonine?

A.—This is a combination of linseed oil, hypophosphate of iron, oils of eucalyptus and wintergreen, Irish moss, marshmallow, dilute hydrocyanic acid and glycerine, made by the Danbury Pharmacal Association and recommended to physicians in place of codliver oil. We have not examined it and therefore can only repeat what the manufacturers say.

R. K.: Is there any virtue in clam juice?

A.—Yes, if properly made. There are several preparations in the market.

They say the brute has no love for liquor, but, all the same, many a horse has been driven to drink.

## CANNED VEGETABLES.

### REPORT OF INVESTIGATIONS AND ANALYSES.

BY K. P. M'ELROY AND W. D. BIGELOW.

[Continued.]

For many years there has been a dispute as to whether copper might be called a normal constituent of food. Many cases of its occurrence in the animal kingdom are known, and it is of course pretty certain, in view of this fact, that it must be a constituent of some vegetable tissues. One noteworthy occurrence of copper in the higher animals was discovered by Prof. A. H. Church in 1869. The wing feathers of a number of species (eighteen out of twenty-five known) of the turaco, or plaitain eater, an African bird, are colored red by a pigment containing about 6 per cent of copper. These birds undoubtedly derive their copper from their food, and from its constant occurrence in their plumage it must be a normal constituent of the vegetable foods upon which they live.

In 1858 A. Dupré and Dr. Odling investigated a large number of common vegetable materials and foods for copper. In nearly all cases the metal was found, though always in very minute quantity. Out of 22 samples of bread 21 contained traces; 20 samples of flour were all found to contain it, and the same was the case with 43 miscellaneous samples, comprising wheat, barley, maize, wheat straw, barley straw, turnips of different kinds, and beets. In 25 samples the metal was estimated. The maximum amount found was in a sample of wheat ash, being 0.024 part in 100 parts of ash. This corresponds to about 1,000 parts of fresh wheat, equivalent to about 1 part of copper oxid to 240,000 parts of wheat, in turn equivalent to something over 3 mg. of copper per kilo. A sample of turnip contained the minimum amount determined, the copper as copper oxid amounting to about 1 part to 4,375,000 of fresh turnip. When enough material was taken the copper was almost always found. That naturally present, however, seldom ever amounted to more than 1 part to 200,000 (5 mg. per kilo). Animal substances (29 samples) were also tested and nearly all yielded the metal. Human liver showed 2 parts of copper oxid per million; sheep's liver, in two cases, 50 parts; and kidneys, about 10 parts. Dupré and Odling came to the conclusion that in the case of vegetable foods the presence of more than 10 parts of copper per million of food must be looked upon as an adulteration. For green peas, however, they placed the limit at 18 to 36 parts. The method of analysis employed was to precipitate the copper on a platinum wire by a weak galvanic current, redissolve in nitric acid, and finally weigh as copper oxid.

Many other chemists have sought to show the constant existence of copper in animal and vegetable tissues, and a fairly large literature on the subject has accumulated. It seems to be proved that copper often occurs, but the proof adduced does not show at all that the metal is a constant component of the tissues in question. The mere fact that it is not found in many cases proves that it is not a normal constituent of living tissues. The drift of the evidence seems to be that it was an accidental ingredient in many cases where it has been found in tissues from the higher animals and plants. That it is not always so is shown by the case of the turaco.

Copper is present in many soils, and since the metal forms no salts which are particularly insoluble, it must often happen that plant roots find dissolved copper presented to them, and no

doubt they sometimes absorb it. The amounts of copper found in common plants, however, as far as known, for a systematic search for the metal throughout the vegetable kingdom has never been made, do not amount to more than the veriest traces. In the work done on the question of the natural occurrence of copper it is a noticeable fact that fresh, unmanipulated vegetable products invariably have yielded the lowest amounts and that the highest have been found in such things as chocolate and other much-handled substances. In animals it is natural to expect copper to be more abundant than in plants, since copper undeniably has a tendency to accumulate in the system to some extent. One of its most usual depositing places is the liver.

All these facts, however, relative to the frequent occurrence of small amounts of copper in unexpected places have no bearing on the question whether the metal is injurious to health or not. If it is injurious to health, the fact that it sometimes occurs naturally in wheat is to be deplored, but is no excuse for artificially introducing it into another food. If it is not injurious the addition would be less culpable, but by no means laudable. Copper is certainly not needed by the human system, and when introduced the organism can make no use of it, but sets to work at once to expel as much as possible of it.

As to whether the metal in small doses is injurious or not, this is still a debatable question. It seems quite evident that it is not nearly so poisonous as it was once reputed. Since large doses, however, unquestionably produce markedly unpleasant, though possibly not deadly, effects, it seems a plausible conclusion that small ones are not altogether innocuous.

Galippe made careful experiments, first on dogs and subsequently on himself and family, as to the effect of daily repeated small doses of copper, and came finally to the conclusion that they were not injurious. His experiments have been tried by others, though not on so extensive a scale, and as a general thing with the same result. He, however, has been trying to do a hard thing—prove a negative. The mere fact that one man can bear a certain medicine very well by no means proves that his neighbor is equally insusceptible. Common experience is sufficient to show this. One man habitually uses tobacco; to another it is an acrid poison. Granting for a moment that copper is injurious, it might very well follow that M. Galippe and his fellow experimenters formed a copper habit, and acquired the power of tolerating the metal in a manner analogous to the way in which toleration for many notorious poisons—arsenic or morphine, for instance—can be attained. It is not contended, of course, that this was necessarily so, but the fact remains that M. Galippe's results, which he interprets to mean that copper is absolutely non-poisonous, may be interpreted in other ways.

On the whole, it may be said that the question of the poisonous nature of copper salts is still an open one, and science is not yet ready to form an opinion. This being the case, it is believed that the practice of coppering peas, even when it is made known to the consumer, should be discouraged, and surreptitious coppering should be repressed.

The consumer should have all the facts before him, and if he then elects to run the possible risks there is no good reason in the present state of knowledge for restraining him. It is not, however, fair or good policy to make him take through ignorance greater or less amounts of a possible or probably deleterious substance.

[To be continued.]



## HOUSEHOLD.

### TESTED RECEIPTS.

Every receipt here given is original, has been practically tested by the AMERICAN ANALYST and is therefore confidently recommended.

#### CREAM OF RICE SOUP.

Cover a cupful of rice with a quart of white stock and boil gently an hour; add before putting on fire a small onion, cut in pieces, a sprig of parsley and a little celery, salt and pepper to taste. Put through a sieve and add a cup and a half of sweet cream just before serving. Do not let the soup boil after adding the cream.

#### BROILED TROUT WITH CREAM.

Grease the bars of a hot gridiron to prevent fish from sticking, turn frequently until well cooked. Put a cup of cream in a saucepan, season it with salt and pepper and let it boil, then pour over the fish; decorate with parsley.

#### VENISON STEAKS.

Cut them from the neck, season with salt and pepper. When the gridiron has been well heated grease the bars, and lay the steaks upon it; broil them well, turning frequently, taking care to save as much of the gravy as possible. Pour some melted butter over them when cooked and serve with currant jelly.

#### STEWED MUSHROOMS.

Peel and cut the stems off a quart of fresh mushrooms, season with salt and pepper; put them in a saucepan with a pound of butter, and sufficient milk or cream to cover them. Cover and stew fifteen minutes; when taken from the fire have two eggs well beaten and stir in gradually; serve at once.

#### LOBSTER SALAD.

Cut the meat of two lobsters in small pieces; add the fat and coral, then season with salt and pepper, and pour over enough mayonnaise dressing to moisten well. Put in a salad bowl and garnish with lettuce; pour over the remainder of the dressing, and put slices of boiled egg and olives over the top.

#### PLUM PUDDING.

Nine eggs, three-quarters of a pound of brown sugar, one pint cold coffee, three-quarters of a pound beef suet cut fine, two and a half pounds raisins, one pound currants, one pound citron cut fine, quarter of a pound of candied orange peel, the same of lemon peel, one teaspoonful each of ground mace, cloves, cinnamon and allspice, a quarter of a pound stale bread crumbs, one pound of flour, a little salt; put in a bag and boil four hours or steam six hours.

#### HARD SAUCE FOR PUDDING.

One cup powdered sugar, half cup of butter beaten together until like cream; add the whites of two eggs that have been well beaten; beat well and add a tablespoonful of brandy or wine.

### A DINNER FROM CANS.

#### HOW PEOPLE MAY NOW DINE WITHOUT THE USE OF COOKS.

Such an advance has been made in late years in canning all sorts of stuff that one can now obtain a whole course dinner, from soup to dessert in tin. The variety of soups that are now canned so as to be ready for consumption with very little trouble as to heating is remarkable. One may select from this list: Tomato, mock turtle, ox tail, consommé, julienne, macaroni, okra, gumbo,

green turtle, chicken, pea, beef, bouillon, maggi, vermicelli, mulligatawny, clam broth and clam chowder. All these soups come in cans, and, with nothing more to be done than a little heating, are ready for the table.

If one does not care to begin his dinner with soup, he may do so with oysters. These come in cans, and one may have either Saddle Rocks or Blue Points, as he pleases, or both. If he prefers clams to oysters, he can have them, for little necks are now done up so well in cans that they may be had always. For fish he may choose from bloaters, fresh mackerel, fresh salmon, white fish and brook trout. Incidentally for relishes, he may have olives, radishes and even celery. When it comes to meats we find a vast variety. Roast chicken, roast turkey, roast beef, ham, roast lamb, roast mutton and roast duck are all canned. The vegetable list comprises asparagus in a half-dozen varieties, corn, tomatoes, peas, succotash, spinach, squash, potatoes, Boston baked beans, lima beans and stringless beans. For game he may have pheasant, quail, partridge, grouse, woodcock, snipe and wild duck. By this time he may be ready for his dessert, and for that he may choose from all kinds of fruits, jellies, marmalades, or English plum pudding. The last not only comes in cans, but is even accompanied by the necessary sauce. Other things that are canned and that may be made to fit here and there in a dinner are lobster, chicken and shrimp salads; sardines and deviled crabs, that are not only canned, but are sold with the accompanying crab shells, so that the deviled crab may be served just as though it had been picked out and especially prepared for the occasion.

In addition to this list there are to be found in cans and ready for consumption, codfish balls, green turtle, herring, smelts, lambs' tongues, boned turkey, boned chicken, ox tongue, chipped beef, smoked beef, ham sausage, compressed ham, pigs' feet, tripe, deviled chicken, ham, lobster, tongue and turkey, potted duck, chicken, tongue, game, ham and turkey. Boston brown bread and evaporated vegetables of all kinds.

The list of canned fruits includes apples, apricots, blackberries, blueberries, cherries, cranberry sauce, figs, grapes, gooseberries, peaches, pears, pineapples, plums, quinces, raspberries, strawberries, and even preserved roses. There are also fruit jellies of every kind, and fruit preserves, jams and butter. Mince meat and desiccated cocoanut likewise comes in cans. With the extension of the food stuffs canned there has also come an improvement in the cans used. Whereas it formerly required a great deal of trouble to open a tin can of any sort, this difficulty has been overcome by a simple though curious device. Around the can is soldered a strip of tin one end of which may be fitted in a key; by turning this key the soldered rim is twisted off without the least trouble and the can is opened for use. Many people may not like a tin can dinner, but those who eat such a dinner, either from choice or necessity, certainly cannot complain of the variety or quantity of the food at their service.

### FOOD ECONOMICS.

Hon. Edward Atkinson, in an address upon the waste of feeding, gave some startling figures which may well be reproduced in this age, when, especially in our great cities, there is such a cry for bread. He said the country needed not so much instruction as to the best means of making money as how to spend, especially a small income.

He calculated that the daily waste of food and

fuel was five cents per day for each person in the country. To that he adds two cents a day for money used for tobacco and liquors—a total waste of seven cents daily. Taking the population of the country at 65,000,000, there would be 13,000,000 of families of five persons each.

At seven cents per day then the whole waste upon food products—a waste made by faulty methods of converting good food by improper preparation and cooking into bad food—is \$1,660,750,000. If this waste were appropriated to providing better shelter and clothing it would give to each of the 13,000,000 families of the country \$127.75!

In the matter of liquors and tobacco the amount consumed as shown by official statistics is more nearly four than two cents for each man, woman and child in the United States daily.

If the waste were only four cents daily—two on food and two on liquor and tobacco the amount would be a little less than \$1,000,000,000!—and this waste is largely by those who can spare it least.

Could there be a stronger argument in favor of economic cooking and abstinence from liquors and tobacco? There is a growing disposition to make cooking a part of the curriculum of even a public school education. With our public and select school teaching not only culinary economics, but the dangers and wastefulness of alcoholic stimulants and tobacco, a generation of men and women is being raised up that will demonstrate the advantages and blessedness of the utilitarian efforts of this age. It makes the older ones of us wish our burning could have been deferred one hundred years.

### FISH AS FOOD.

#### INTERESTING REPORT OF THE FISH COMMISSION.

Prof. W. O. Atwater has just concluded an exhaustive study of the chemical composition and nutritive values of food fish and the aquatic invertebrates, which is presented in the last report issued by the United States Fish Commissioner. The thoroughness of the work can be understood when the statement is printed that analyses have been made of the flesh of 123 specimens of American fish, of 64 of mollusks and crustaceans, and 190 of the invertebrates.

There is ample variety of fish food in this country, as Prof. Atwater tells us that we may select from no less than 1,000 different species of fish. Regarding the fish proper, the list commences with the sturgeon and concludes with the skate, and fish when dried, smoked, salted or canned, and oysters and clams are presented.

The following are the deductions as to the food value of fish: Comparing the flesh of domestic animals and of fish, the latter contains more water and less fat, and hence less nutritive material pound for pound. In the flesh of the flounder there is 16 per cent of the nutrients; in the cod 18, while in lean beef there is from 25 to 33 per cent. The fatter fish, as the herring, mackerel, salmon, shad and whitefish, approach nearer to beef. In dry or salt fish the nutrients are increased, and salted codfish contains 28 per cent, salt mackerel 47, and desiccated cod as high as 82 per cent; oysters have little of the nutrients, only from 7 to 9; lobsters about 18 per cent. In the consumption of fresh fish, bought in the market, by the pound, the quantity of refuse, bone, skin, is more considerable by comparison than that of meat, unless a piece of the latter with too much bone is bought.

It has taken a number of years to make the public get rid of the idea that in eating fish it was procuring additional quantities of phosphorus.



Prof. Atwater is very emphatic in regard to this. He says:

"There is a widespread notion that fish contains large proportions of phosphorus, and is on that account particularly valuable for brain food. The percentage of phosphorus in the analyses of fish is not larger than is found in the flesh of other animals used for food. \* \* \* But even if the fish were richer in phosphorus, there is no proof that it would on that account be better for brain food. The question of the nourishment of the brain and the sources of the intellectual energy are too indeterminate to allow decisive statements, and too abstruse for speedy solution. There is no experimental evidence to warrant the assumption that fish is more valuable than meats or other food material for the nourishment of the brain."

Prof. Atwater, who is a careful student of food generally, is of the opinion that in the United States too much food is eaten containing an excess of fat, sugar, and starch, and not sufficient proteine. "This," he says, "is a natural result of our agricultural conditions which have led to the production of large quantities of maize, which is relatively deficient in proteine, and of excessively fat beef and pork. Our agricultural production is, in this sense, one sided." It is the various substances in flesh containing nitrogen which are known as the proteines.

Taking the nutritive valuation in any kind of flesh, its value as food consists in possessing the three factors—the proteine, fat, and mineral matter. The flesh-forming materials, those of which the human body is composed, are then these three, the mineral matter forming the bones. The rest is water, and not available save as a solvent.

When studying the comparative value of oysters as food, Prof. Atwater shows that the average quantity of water in an oyster is 87.3 per cent, which would leave 12.7 per cent of edible matter. In a quart of oysters the edible quantity varies in weight from 2½ to 5½ ounces, according to season or locality. Looking carefully at the cost of food, oysters are very dear in the sense that a great deal of money is required for a small quantity of nutriment; but the world does not want to live on pork and beans exclusively, and advanced civilization requires variety in its diet, and pays for the flavor of a Blue Point, and it has a value not counted in dollars and cents.

One of the most interesting tables of nutrients and potential energy in the dietaries of different people is to be found in Prof. Atwater's report, the American figures being due to the author. Given so much food, of such a quality, how much physical force can be evolved? The problem is based upon studies of the proteine in food, just as the steam-developing qualities of various fuels. A London sewing girl making 93 cents per week can only produce a potential energy which finds an equivalent in the number 1.820. The Leipsic factory girl who has to live on \$1.21, gets up a potential energy of 1.940; the Lombardy workman 2.192; the "fully fed" London tailor, 3.053; the Trappist monk, only 2.304. The English blacksmith works up to a potential energy of 4.117; the Munich brewer makes 5.692; the German soldier on a war footing fights with a potentiality of 4.652. A United States Navy ration should produce a potentiality of 4.998, while taking into consideration the vast quantity of food consumed and the quality of it a college football team ought to get up 5.742.

It is the Cambridge (Mass.) brickmaker who heads the list, for he eats food which should produce, theoretically, a potential energy of nutri-

ents represented by the figures 8.848. How much a normal man should eat in order to keep his mechanism in good order depends on the work he has to do. A woman, with light exercise, ought to be all right when eating sufficient to produce a potential energy of 2.300. A confirmed tennis-playing young man might take 500 points more. A man working moderately will require a potential energy of 3.520, and at hard work 4.060. To get up to that, he will have to eat 800 grammes of food, which will contain 150 of proteine, 150 of fat and 500 of the carbohydrates, as sugar, starch, etc.

**TO REMOVE FRUIT STAINS IN LINEN.**—To remove them, rub the part on each side with yellow soap; then tie up a piece of pearl-ash in the cloth, etc., and soak well in hot water, or boil; afterwards expose the stained part to the sun and air until removed.

**TO REMOVE IRON RUST FROM CLOTH.**—Wet the spot with cold water, and place the cloth in the sunshine. Then mix equal quantities of cream-tartar and table salt, and sprinkle the mixture upon it until the dampness has absorbed a great deal, then lay on enough to hide the spot. Wet the spot with cold water every half hour, and, if the stain is then seen, cover it again with the cream-tartar and salt. Keep it in the sunshine, and continue these applications till the stain is gone—if recently contracted, two or three applications will remove it.

**TO PREVENT STAIR CARPETS FROM WEARING.**—Stair carpets should always have a slip of paper put under them, at and over the edge of every stair, which is the part where they wear first, in order to lessen the friction of the carpet against the boards beneath. The strips should be within an inch or two as long as the carpet is wide, and about four or five inches in breadth. A piece of old carpet answers better than paper if you have it. This plan will keep a stair carpet in good condition for a much longer time than without it.

**TO STOP A CHIMNEY BURNING.**—If it is desired to extinguish the fire in a chimney which has been lighted by a fire in the fireplace, shut all the doors of the apartment, so as to prevent any current of air up the chimney; then throw a few handfuls of common fine salt upon the fire in the grate or stove, which will immediately extinguish the fire in the chimney. The philosophy of this is, that in the process of burning the salt, muriatic acid gas is evolved, which is a prompt extinguisher of fire.

**TO KEEP UP SASH WINDOWS.**—This is performed by means of cork, in the simplest manner and with scarcely any expense. Bore three or four holes in the sides of the sash, into which insert common bottle cork, projecting about the sixteenth part of an inch. These will press against the window frames along the usual groove, and by their elasticity support the sash at any height which may be required.

**TO REMOVE TAR OR PITCH FROM THE SKIN.**—Mix together pulverized extract of licorice and oil of anise to the consistency of thick cream, rub it on the part thoroughly with the hand; then wash off with soap and warm soft water.

**TO PREVENT CHURNS OVERFLOWING.**—Take the body of the churn and cut a groove around the inside of the mouth, about three inches from the top and three-eighths inch deep, and then remove half the thickness of the wood, making a shoul-

der all around; then take the cover and cut it to fit nicely inside, and you have now done away with the necessity of cloths, tubs, pans, etc., heretofore required to save the cream flowing over.

**TO MAKE CORN BEER.**—Cold water, five gallons; sound, nice corn, one quart; molasses, two quarts; put all into a keg of this size; shake well, and in two or three days a fermentation will have been brought on as nicely as with yeast. Keep it bunged tight. It may be flavored with oils of spruce or lemon, if desired, by pouring on to the oils one or two quarts of the water, boiling hot. The corn will last five or six makings. If it gets too sour, add more molasses and water in the same proportions. It is cheap, healthy, and no bother with yeast.

**TO MAKE GINGER POP.**—Water, five and one-half gallons; ginger root, bruised, one-quarter pound; tartaric acid, one-half ounce; white sugar, two and one-half pounds; whites of three eggs, well beaten; lemon oil, one teaspoonful; yeast, one gill. Boil the root for thirty minutes in one gallon of water, strain off and put the oil in while hot; mix. Make over night, and in the morning skim and bottle, keeping out sediments.

**TO WASH WINDOWS.**—Dissolve a little washing soda in the water if the glass is very dim with smoke or dirt. Do not let it run on the sash, but wash each pane with old flannel; dry quickly with a soft, clean towel, wiping the corners with especial care. Polish with chamois skin or newspapers rubbed soft between the hands.

**TO WASH LAWN OR THIN MUSLIN.**—Boil two quarts of wheat bran in six quarts or more of water half an hour. Strain through a coarse towel and mix in the water in which the muslin is to be washed. Use no soap, if you can help it, and no starch. Rinse lightly in fair water. This preparation both cleanses and stiffens the lawn. If you can conveniently, take out all the gathers. The skirt should always be ripped from the waist.

**TO WASH WHITE LACE EDGING.**—Have a quart bottle covered with linen, stitched smoothly to fit the shape. Begin at the bottom and wind the lace about it, basting fast at both edges, even the minutest point to the linen. Wash on the bottle, soaping it well, rinse by plunging in a pail of fair water, and boil as you would a white handkerchief, bottle and all. Set in the hot sun to dry. When quite dry, clip the basting threads, and use the lace without ironing. If neatly basted on, it will look nearly as well as new—if not quite.

**TO CLEAN POTS, KETTLES AND TINS.**—Boil a double handful of hay or grass in a new iron pot, before attempting to cook with it; scrub out with soap and sand; then set on full of fair water, and let it boil half an hour. After this you may use it without fear. As soon as you empty a pot or frying pan of that which has been cooked in it, fill with hot or cold water (hot is best) and set back upon the fire to scald thoroughly. New tins should stand near the fire with boiling water in them, in which has been dissolved a spoonful of soda, for an hour; then be scoured inside with soft soap; afterward rinsed with hot water. Keep them clean by rubbing with sifted wood ashes, or whitening. Copper utensils should be cleaned with brickdust and flannel. Never set a vessel in the pot-closet without cleaning and wiping it thoroughly. If grease be left in it, it will grow rancid. If set aside wet, it is apt to rust.



## ADULTERATION.

### MEAT PRESERVING PREPARATIONS.

Dr. E. Pelouske contributes to the *Pharmaceutische Zeitung* the following analyses of certain meat preservatives found in trade in Berlin, and emanating from the *Fabrik* of E. Dressel of Berlin.

**Odorless Meat Preservative.**—A clear, yellow liquid, with a slight acid reaction, of 1.128 specific gravity. One liter of it contains:

Common salt.....	22 gm.
Sodium sulphate, anhydrous....	73.5 gm.
Vanilla.....	15 cg.
Sodium sulphide.....	171 gm.
Sulphurous acid.....	34.5 gm.

In other words, it is simply a solution of a mixture of sodium sulphite and bisulphite.

**Meat Preserving Powder.**—Finely pulverized sodium disulphide.

**Preservative Salt, or Pickle Salt.**—Sodium chloride, 80 parts; borax, in powder, 8 parts; potassium nitrate, 12 parts.

The same authority gives the following analyses of other meat preservatives and colors:

**Schramm's Latest Meat Preserving Powder.**—Merely finely powdered sodium disulphide.

**Schramm's Pulverized White of Egg,** sold by the manufacturer to be "the best known combining agent (*Bindemittel*) for sausages," is simply impure blood albumen.

**E. Dressel's Chromosote.**—"A coloring agent for prepared sausage—not to be on sausage that must be cooked," is a mixture of sodium sulphate and sodium sulphite, with some organic coloring matter.

**Dressel's Preserve Salt.**—"For repacking American hams recently removed from the brine," turns out to be merely pulverized borax.

### CAKES MADE WITH SOAP.

These pastry cooks seem to be terrible people. They make their dough rise with ammoniacal liquids, into the origin of which we had better not inquire too closely; they use vaseline in the place of butter; they resort to substances forbidden by hygiene to color their articles, and now it seems that they put soap in their pastry. M. Crespo has called the attention of the Belgian Association of Chemists to this fact. In this way they obtain light cakes that are tasty, and that have a special way of melting in the mouth highly appreciated by amateurs. The proportion of soap used varies. In articles made for sale at public fairs they do not restrain themselves, but put in a large quantity; whereas, for fine pastry, they are more sober. The bakers have not wished to be outdone by their confreres, but are now beginning to use soap in making their finest grade of bread.

To mix the soap with the dough it should first be dissolved in a small quantity of water; it should then be beaten up with some oil, and when this has been thoroughly done the concoction is ready to be added to the dough. Bread containing soap only differs from ordinary bread in that it has a lighter and more spongy texture.

M. Crespo claims to know no means of detecting soap in pastry or bread, but M. Herlaut, of Brussels, has succeeded in finding one, which the *Revue Scientifique* publishes in one of its last numbers. The process, however, is so long and intricate that I will not inflict its details on my readers. Now that our pastry and bread are made with soap, we really wonder what the next form of falsification will be.

## HYGIENIC.

### HAIRDRESSERS AND ANTISEPTICS.

A great many diseases of the skin, and particularly those of the scalp, have a microbial origin. These microbes, when sufficiently sheltered and in favorable conditions of warmth and moisture, develop and prosper without limit. They contaminate everything with which they come in contact and propagate the complaint of which they are the cause. This is the explanation of the rapid diffusion of such complaints as ringworm and tinea tonsurans. Scissors and razors are undoubtedly agents in disseminating microbes, but it is particularly the brush and mechanical haircutter that are to be blamed in this connection. It is a difficult matter, not to say an absolutely problematical one, to sterilize them. Since they cannot be heated, it is practically impossible that the antiseptic solutions into which they are immersed should penetrate everywhere to reach and destroy all the germs. Thus the most elementary prudence demands that every client should have a separate set of razors, scissors and toilet articles for personal use only; in this way the risk of disease would be reduced to the lowest possible minimum.

But it is not sufficient to have razors, scissors and combs that are above suspicion; we must also look into the habits of cleanliness of the hairdressers themselves, who should be required to fall into the habit, if not of disinfecting themselves as a surgeon does before an operation, at least of putting their hands and fingers, which are always greasy and dirty, through a careful process of cleaning. I do not think, and, undoubtedly, all my readers agree with me, that it would be requiring too much of them to give their hands a good soaping before using them on the face or hair.

Let us, therefore, persevere in our exigencies; let us have instruments and toilet objects for our personal use; but let us insist on the coiffeurs keeping their hands clean.

### THE BARE FEET FAD.

An exchange, recently writing on the subject of the latest fashionable craze, remarks pointedly that the fad for bare feet when "resting off" is pretty generally hooted at by the slow coaches; yet it is doubtful if any other one fad is more directly regenerative. Get off your shoes and stockings for a couple of hours each day and "give the toes a chance to breathe"—as one woman expressed it—and to exercise themselves. You will soon find that a delightful change is taking place in your tired or torpid shell—and do not our spirits respond with truly awful precision to the physical states?

The liberated feet will repay you in any one or all of the following ways: The unfailing ache that for a long time has each day taken possession of your head will—unless other factors than "nervous" or depletion are at work—make its final adieu; the heart beat will grow stronger and more regular; the "sinking spells" will gradually disappear; the wan look and pale lips will respond with roseate tints to fuller and freer respiration; the very carriage of yourself will undergo rejuvenation, for the muscles of the foot and ankle—sadly lacking in mobility with all of us—will, as fast as they gain elasticity lend it to the entire body.

The feet themselves will grow in beauty—rather, grow beautiful; for the undressed foot that boasts a vestige of beauty is rare, indeed.

Your feet coming daily under your inspection will be fairly disagreeable to you until something is done to make them more shapely. You will hesitate, brought face to face with the penalty, to crowd and cramp your toes in short, narrow shoes; you will appreciate the enormity of protruding joints and disfiguring bunches—you will be ready to do almost anything to rid your feet of these disfigurements.

Next you will wonder why the toe tips are faintly saffron instead of "faintly pink" like your pretty finger tips, and you will soon make up your mind to give the toes an energetic rubbing every day until they come into some resemblance of the "petaled toes" of poetry. Not even the toe nails can escape your awakened attention—you will trim and care for them with a new interest, even rub them, it may be, with a bit of chamois occasionally; and the rubbing with chamois will not contribute to rarity alone—normal circulation, excited by rubbing, beneath the nails, will avert many of the painful and expensive caprices of nail growth that send some of us in torture to the pedicure.

Lighter spirits, improved digestion, clearer heads and clearer vision will wait on the daily rest from shoes and stockings. Indeed, doctors nowadays make a special point of the salutary effect of bare feet on the eyesight.

In Cambridge—that hotbed of wisdom and enlightenment—it is quite the thing for the young professors to keep their little ones unshod till the days of kindergarten come.

There is a doctor, high in repute, in our northern seaboard town, whose only son—a healthy, jocund little chap of ten or twelve—never, I am told, has worn shoes or stockings except to church or dancing class.

While you are giving your gasping feet their daily air bath, pirouette about on your toe tips for fifteen minutes or so. Or, if this light fantastic tripping seems to you beneath your age and dignity, depend on the massage you give your feet to establish good circulation. It is well to start vigorous circulation immediately the feet are bared; otherwise chilled feet and a cold may result.

## MEDICAL.

### ANALYSES OF SOME ETHICAL PATENT MEDICINES.

BY H. W. SNOW, PH.C.

[Read before the Nebraska Pharmaceutical Association.]

It is not proposed in the following paper to give elaborate details and methods employed for this work, but rather to give the results of work. It is sufficient to say that the methods employed were those generally considered reliable or in special instances had been demonstrated by my own experience to be satisfactory and accurate. It is hoped that in these reports you will find interest and possibly instruction, and if so, then my object is achieved. Properly speaking, the ethical patent medicine line may be broadly divided into two divisions, viz.: those having a reason for existence, and those having no true therapeutical reason for existence. For instance, Cascara Cordial in its day and Cascara Aromatic at present fill a real need and offer advantages for the administration of cascara not possessed before their introduction. On the other hand, we can point to scores of proprietary articles of the Bromidia, Tongaline, and Listerine type having very little to recommend them for a permanent place in pharmacy.

Let us take Lacto-Peptin for instance. It



claims to be a happy combination of the chief digestive agents of the alimentary canal and in proportions practically the same as they occur in the human system. This is a good handle to use commercially, but physiological chemistry has some long strides to make before it can yet furnish data making such a preparation even partially true to any such claims. The proprietors give a formula for their article; and desiring to know something more regarding it, I made a preparation of a good quality of pepsin, pancreatin, diastase, lactic and hydrochloric acids, and sugar of milk, in the proportions claimed for Lacto-Peptin. I then made a series of comparative tests between this article and the proprietary preparation, and found by strictly parallel work that in digestive power on albumen it contained a pepsin of about 1 to 500 power, against a 1 to 100 pepsin used in the sample made by myself. In its action on milk it was less than one-twentieth as strong as the check sample, and in its action on starch paste equally unsatisfactory. The natural inference from the work done forces a conclusion that it contained no pancreatin worthy of the name—is, practically speaking, a very ordinary quality of saccharated pepsin for which you are asked to pay \$10 a pound when labeled Lacto-Peptin. The same company puts up a so-called solution of Lacto-Peptin said to contain 32 grains of lacto-peptin per fluidounce. Using enough of this solution to correspond to  $\frac{1}{4}$  grain of pure pepsin, and trying its solvent power on egg albumen, showed that it practically had none, while a solution of the check sample, made as nearly like the "patent" as was possible, gave good results. Still another preparation of this company is the Syrup of Lacto-Peptin and Phosphates. It is said to contain lacto-peptin and 8 grains each of the phosphates of lime, iron, potash, and soda. The taste of the article alone is sufficient evidence of the falsity of this claim, as it is a chemical impossibility to put in calcium phosphate in that proportion without an acidity much greater than that of the "patent." An estimation of the combined phosphates of lime and iron showed only about one-half grain per fluidounce.

Bromidia was examined by Lyons some years ago, and since then I have had opportunity to verify his work. The conclusions reached were, that it contained scarcely two-thirds as much bromide of potash and chloral as claimed, and no *cannabis indica* at all. On the other hand, there is evidence to lead one to believe that it contains narcotics not named in its alleged formula. Likewise Iodia, claiming potassium iodide 5 grains, and iron phosphate 3 grains per fluidrachm, with vegetable alteratives and aromatics. Both the writer and Lyons failed to find more than about three grains of the iodide and only traces of iron in each drachm. Lithiated Hydrangea is said by its proprietors to contain green hydrangea root and 3 grains of pure benzo-salicylate of lithia in each fluidrachm. If this means anything at all it means 3 grains of the combined salicylate and benzoate of lithium. Careful work failed to show but little more than one-seventh of this amount.

The claims for Listerine put forth by the same company are familiar to you all, but these claims being rather vague it is difficult to say more than that it can hardly be credited with any very satisfactory antiseptic value.

Probably Elixir of Iron Phosphate, Quinine, and Strychnine has troubled more pharmacists than any other pharmaceutical preparation, and certainly, speaking for myself, I have had a goodly share of discouraging "Now you have it

and now you haven't." Finally, an examination of Wyeth's article developed the interesting fact that it contained no iron phosphate. Limited experiment pointed to the citro-chloride of iron as the probable salt, and certainly when properly handled this article gives good results, but even in this a very careful adjustment of the citrate of potash is essential. Too little of this chemical and the elixir is likely to darken, and once dark you cannot restore it. Too much and your quinine is very likely to precipitate as insoluble citrate. Iron lactate is also a good form for exhibiting the iron in this elixir.

Maltine and Cod-Liver Oil was at one time claimed on the label to contain 30 per cent by volume of cod-liver oil. Trommer's preparation is claimed to contain 40 per cent of oil. A series of analyses of these two articles by the Ohio State Board of Health showed them to fall far short of this, and the report of the Committee on Adulterations of the New York State Pharmaceutical Association quoted further work to indicate that they fell respectively to 12 per cent and 8 per cent of oil. It is not likely that this smaller amount was added because of questions of price, as malt extract is worth more than cod-liver oil, but the taste must be pleasant at any sacrifice, and that principle is undoubtedly at the bottom of the "cut" on the oil. Again, we have the emulsions of cod-liver oil. Every pharmacist understands that an emulsion of an oil is administered from a double motive—palatability, and to insure a more perfect absorption. These two features bear an intimate relation to each other, and the fineness of the division of the oil is the chief element. Microscopical examinations of an emulsion offer a ready means of judging it from this standpoint.

Phillips' emulsion was found to contain  $7\frac{1}{2}$  fluidounces of oil per pint. It is a gum emulsion and contains 2 ounces of glycerine to the pint, and some sugar.

Hydroleine, another emulsion, shows many peculiarities. For instance, it is precipitated by dilute acids but not by alcohol, showing that it contains no gum and is on the other hand either a soap emulsion or has been treated with an alkali, which amounts to the same thing. The oil shows the peculiarity that after its extraction by ether it forms a partial emulsion on shaking with pure water. The proprietors claim that the oil has been predigested by the aid of pancreatin, but as I have never yet found a pancreatin worth anything at all as an emulsifying agent, and never met anyone who had, I prefer to doubt this claim. I do not regard such an emulsion as a desirable form for the administration of cod-liver oil, because it curdles in the stomach immediately on contact with the gastric juice, and is no better tolerated than a plain oil. I have known it to be repeatedly thrown up by patients using it. It, however, contains the unusually large proportion of  $10\frac{1}{2}$  ounces of oil to the pint.

Another emulsion formerly offered the trade, but I believe now withdrawn from sale, contained 7 ounces of oil per pint, and some glycerine. I regard it as probably the best all round emulsion then offered, but it did not keep very well.

## INVENTIONS, SCIENCE, ETC.

### THE CARPET BEETLE.

The carpet beetle (*anthrenus scropulariae*), also known as "the buffalo bug," was, like almost every other noxious insect to be found in this country, introduced from Europe; and though it has hardly been in the country twenty years, has

thoroughly made its home among us and has done incalculable damage.

Professor J. A. Lintner, the State entomologist, in one of his reports, says that the insect was first discovered in 1874, and he found it in his own house, at Schenectady, in 1876. In describing the pest he writes:

The larva—the form in which it is usually found when pursuing its ravages beneath the carpets—measures, when it has reached maturity, three-sixteenths of an inch in length. A number of hairs radiate from its last segment, but are more thickly clustered in line with the body, forming a tail-like projection, almost as long as the body. The entire length of the insect, including the pencil of hairs is, in the largest specimens, three-eighths of an inch. Measured across the body and the lateral hairs, its breadth just equals the length of the body proper, three-sixteenths of an inch. An ordinary microscope will show the front part of the body, where no distinct head is to be seen, thickly set with short brown hairs and a few longer ones. Similar short hairs clothe the body—somewhat longer on the sides, where they tend to form small tufts. Toward the hinder end may be seen on each side three longer tufts, projecting laterally; but these are not always visible, as the insect, by aid of a peculiar muscular arrangement, has the power of folding them out of sight along its sides. The body has the appearance of being banded in the shades of brown, the darker band being along the central portion of each ring, and the lighter, the connecting portion of the rings, known as the incisures. By turning it upon its back, the six little legs, of which it makes such good use, can be seen in vigorous efforts to regain its former position—its struggles while in this condition sometimes producing a series of jumps of about one-eighth inch in height.

Having attained its full growth, it prepares for its pupal change without the construction of a cocoon or any other provision than merely seeking some convenient retreat. Here it remains in a quiet state, unaltered in external experiences, except somewhat contracted in length, until it has nearly completed its pupation, when the skin is rent along the back and through the fissure the pupa is seen. A few weeks having passed, the pupal skin in its turn is split dorsally, and the bright-colored wingcovers of the beetle are disclosed. Still a few additional days of repose are required for its full development, when the now fully matured beetle crawls from its protective coverings of pupal case and larval skin, and appears in its perfect form—its final stage.

The earliest beetles emerge in October and continue appearing during the fall, winter and spring months. They pair soon after appearance, and the female almost at once lays eggs in cracks of the floor and in nooks, so that during the next summer the carpet may be yet more eaten.

The beetle is quite small, smaller than would be ordinarily expected, considering the size of the larva—being only about one-eighth of an inch long by one-twelfth of an inch broad. It is almost a perfect ellipse and its back and under surface are rounded. When turned upon its back it counterfeits death, with its legs so closely folded to the surface as scarcely to be seen, and in this state the ordinary observer might be at a loss to know the lower from the upper side.

It is a beautifully marked little insect, in its contrasting colors of white, black and scarlet, arranged as follows: The edge of each wingcover, where they meet on the back, is bordered with red, forming a centre red line, with three red projections from it outwardly—one on the middle of the



back, and one other toward each end. At the extreme tip of the wingcovers is a widening of the bordering line, making almost a fourth projection from it. The first projection near the head is connected with a white spot, running upward on the middle of the front border of the wingcover. On the outer border of the wingcovers are three white spots, nearly opposite the red projections. The intermediate pieces are black. The segments of the body beneath are covered with pale-red scales, and the thoracic region, which bears the legs, with whitish scales.

Professor W. Beuttenmuller, etymologist at the Natural History Museum, said a few days ago: "These insects have done considerable damage to carpets and rugs since the little pests were introduced here, twenty years ago. Those carpets, however, which are frequently taken up and shaken are little if at all damaged, for they are no longer a comfortable dwelling place for this insect, which is of a secretive and retiring disposition."

"It seems probable that the pest was imported simultaneously by carpet dealers in New York and Boston, and thence shipped in goods to inland cities. Dr. R. Hagen of Cambridge, in 1875, for instance, traced three-quarters of the infected carpets brought to his notice to a particular line of goods sold to a single establishment in Boston. At the present day this insect is one of the greatest household pests in the New England States. It destroys carpets and all woolen goods, while furs do not escape its attacks.

"The beetles fly to the windows, and may often be caught upon the panes of glass; they are also captured out of doors upon flowers. The insect generally attacks the carpets around the borders of the room. The remedies are benzoline and naphthaline; but perhaps the best way to get rid of them is to lay a wet cloth over the carpet and

iron with a hot flatiron; the steam generated will certainly kill every larva it comes in contact with. Other remedies are camphor, pepper, tobacco, turpentine and carbolic acid."

Inquiry was made of one of the largest carpet dealers as to what he advised as the best way to destroy the pest. "Pest! My dear sir, we don't consider it a pest. In fact, the buffalo bug is one of our best consumers; but if people want to get rid of them I can recommend the following: Take every piece of furniture out of the room, and open every door and window; and if it is a windy day, all the better. Take a stiff broom and sweep over the carpet with a strong hand, paying particular attention to the edges and those spots over which furniture has been resting. This done, say once a month, will effectually keep away the carpet-bug."

It may be added that the name "buffalo bug" was not derived from the city of that name in this State, but was given to the insect years ago in California, owing to its miniature resemblance to the now almost extinct animal. It had been probably brought to California from Europe by the Spaniards.

#### BOILED WATER IN AN ENVELOPE.

With their customary disregard for proof of the truthfulness of their statements, a certain class of newspapers are circulating the following paragraph:

"My wife and I," says a traveling man, "were once in a hotel where we couldn't get any boiling water. After we had discussed the situation my wife asked me if I had an envelope in my satchel. I got one out, when she told me to fill it with water and hold it over the gas jet. I hesitated but finally did it, and expected to see the envelope blaze up every moment. But it didn't blaze. The envelope took on a little soot, but that was all.

The water boiled in time, and the envelope was as good as ever when the experiment was at an end. I don't know the chemistry of the process, but try it yourself and see if it will not work."

A trial of a large number of different style envelopes failed to reveal one that would hold water, and those that were held in the flame caught fire on the edge. Water, however, was made to boil in heavy paper folded in the shape of a box, with wire gauze placed between it and the flame. The case simply illustrates how quickly a newspaper will seize upon a statement, especially of a scientific nature, and publish it without first proving its authenticity.—*Bulletin of Pharmacy.*

TABLE SHOWING DIFFERENCE OF TIME AT TWELVE O'CLOCK (NOON) AT NEW YORK.

New York.....	12.00 N.
Buffalo.....	11.40 A. M.
Cincinnati.....	11.18 "
Chicago.....	11.7 "
St. Louis.....	10.55 "
San Francisco.....	8.45 "
New Orleans.....	10.36 "
Washington.....	11.48 "
Charleston.....	11.36 "
Havana.....	11.25 "
Boston.....	12.12 P. M.
Quebec.....	12.12 "
Portland.....	12.15 "
London.....	4.55 "
Paris.....	5.04 "
Rome.....	5.45 "
Constantinople.....	6.41 "
Vienna.....	6.00 "
St Petersburg.....	6.57 "
Pekin, night.....	12.40 A. M.

"Well, I wonder what will be the sensation of the week?" queried the telegraph editor.

"If I may be permitted to speak," ventured the horse editor, "it is likely that the sensation of the weak will continue to be that tired feeling."

# TWIN REMEDIES

## BUFFALO LITHIA WATER AND HOT SPRINGS WATER

In Bright's Disease, Uric Acid Diathesis, Gout, Rheumatic Gout, Rheumatism; their value in Calculi.

**Dr. Algernon S. Garnett,** *Surgeon (retired) U. S. Navy, Resident Physician, Hot Springs, Ark.,* says:—"My experience in the use of BUFFALO LITHIA WATER is limited to the treatment of Gout, Rheumatism and that hybrid disease 'Rheumatic Gout' (so-called), which is in contradistinction to the Rheumatoid Arthritis of Garrod.

"I have had excellent results from this Water in these affections, both *in my own person and in the treatment of patients for whom I have prescribed it.* Of course the remedial agent is its contained Alkalies and their solvent properties. "Hence it is a prophylactic as well as a remedy in Nephritic Colic and forming Calculi, when due to a redundancy of Lithic Acid."

**Dr. Wm. B. Towles,** *Professor of Anatomy and Materia Medica in the Medical Department of the University of Virginia, former Resident Physician, Hot Springs, Va.,* says:—"I feel no hesitancy whatever in saying that in Gout, Rheumatic Gout, Rheumatism, Stone in the Bladder, and in all Diseases of Uric Acid Diathesis, I know of no remedy at all comparable to BUFFALO LITHIA WATER.

"Its effects are marked by causing a disappearance of the Albumen from the urine. In a single case of Bright's Disease of the Kidneys, *I witnessed decided beneficial results from its use,* and from its action in this case I should have great confidence in it as a remedy in certain stages of this disease."

**The late Dr. Wm. F. Carrington,** *Resident Physician, Hot Springs, Ark., Surgeon (retired) U. S. Navy,* says:—"BUFFALO LITHIA WATER, Spring No. 2, has signally demonstrated its remedial power in Gout, Rheumatic Gout, Rheumatism, Uric Acid Gravel, and other maladies dependent upon the Uric Acid Diathesis.

"It not only *eliminates from the blood the deleterious agent* before it crystallizes, but dissolves it in the form of Calculi, at least to a size that renders its passage along its ureters and urethra comparatively easy. Send twenty cases No. 2."

**Dr. T. B. Buchanan,** *Resident Physician, Hot Springs, Ark.,* says:—"Send me five cases BUFFALO LITHIA WATER, Spring No. 2. I have made use of this Water for Gout in my own person and prescribed it for patients similarly suffering, with the most decided beneficial results. I take great pleasure in advising Gouty patients to these Springs."

Water for Sale by All Druggists. Pamphlets sent to Any Address.

THOMAS F. GOODE, Buffalo Lithia Springs, Virginia.



## THE CIRCLE OF NECESSITY.

Metaphysicians and logicians have much to say about "the circle of necessity" which is a phrase possessed of an alluring vagueness and possible comprehensiveness quite indefinable to ordinary persons. The fact is that we all move continually in "circles of necessity," from the cradle to the grave and instead of being a "free agent" man is at no point of time and in no regard, unbounded by conditions which mould and confine his actions and prescribe their consequences. In nothing is this more clearly apparent than in the matter of preservation of health. Habits of business requirement or possibly inherited or perhaps adventitiously cultivated self-indulgence, plunge one into a vortex of necessity the eddying whirls of which are disease and the inevitable engulfment in the centre—death. The fagged out brain, shattered nerves, disordered stomach, torpid liver, exhausted kidneys and sluggish bowels—each the product of apparent necessity at least—have been the motive forces in the whirls of cause and effect. Certainly consequent upon them follow other whirls, nearer to the final plunge into the darkness; impoverished and tainted blood, starved and perverted organs which demonstrate their condition by such evidences as bilious fevers, "gall-stones," indurated liver, diabetes, Bright's disease, inflamed spleen, ulcers, paresis and a host of neuralgic and



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it Back

Peddlers and some unscrupulous grocers will tell you "this is as good as" or "the same as Pearlina." IT'S FALSE—Pearline is never peddled, and if your grocer sends you something in place of Pearlina, do the honest thing—*send it back.*

383

JAMES PYLE, New York.

## Everything connected with Butter

—churns, patters, tubs, firkins—ought to be washed with **Pearline**. That gets at the soaked-in grease as nothing else in the world can.

Things may **seem** to be clean when you've washed them in the usual way; but use **Pearline**, and they really **are** clean. It might make all the difference, sometimes, between good butter and bad. Wherever you want thorough cleanliness, or want to save your labor, the best thing to do is to use **Pearline**.

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Is the most effective and agreeable remedy in existence for preventing indigestion, and relieving those diseases arising from a disordered stomach.

**Dr. W. W. Gardner**, Springfield, Mass., says: "I value it as an excellent preventative of indigestion, and a pleasant acidulated drink when properly diluted with water and sweetened."

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**Rumford Chemical Works, Providence, R. I.**

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rheumatic affections. But the possession of intelligence enough to recognize the evils existent and of knowledge how to remedy them are new conditions creating another "circle of necessity," one of return to health, if with the intelligence and knowledge are associated energy of action in the right direction. The sick man who seeks relief in Ayer's Compound Extract of Sarsaparilla enters himself in that regenerative circle of necessity. It is a medicine which cleanses and invigorates all the vital organs, eliminates the effete matter resulting from the wear of life and even expels inherited taints in the blood. Compounded of the most potent alteratives, each selected for its specific influence upon a particular organ and all harmoniously blended so as to secure the highest resultant combined action, in which the effectiveness of each is enhanced, is beyond all other alteratives in its safe and certain service. The proportions in which the components are united, are matter of general knowledge among physicians; but no other manufacturer has yet been able to make the medicine so effectively as J. C. Ayer & Co., for this firm is exceptional in the conscientious care and skill it brings to bear and the ingenious "cold process" it employs in making the vegetable extracts, by which their volatile principles—which are of the greatest value—are perfectly preserved; as they are not in other modes of manufacture. Ayer's Compound Extract of Sarsaparilla richly deserves the fame it has enjoyed all over the world, for half a century.

\$100 REWARD \$100.

The readers of this paper will be pleased to learn that there is at least one dreaded disease that science has been able to cure in all its stages and that is catarrh. Hall's Catarrh Cure is the only positive cure now known to the medical fraternity. Catarrh being a constitutional disease, requires a constitutional treatment. Hall's Catarrh Cure is taken internally acting directly upon the blood and mucous surfaces of the system, thereby destroying the foundation of the disease, and giving the patient strength by building up the constitution and assisting nature in doing its work. The proprietors have so much faith in its curative powers, that they offer One Hundred Dollars for any case that it fails to cure. Send for list of Testimonials.

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The Chateau d'Orleans and O V Chablis are sold in glass only.



## MISCELLANEOUS.

## GREAT MEN'S WORKS.

THE VARIOUS AGES AT WHICH THEY WERE PRODUCED.

Mohammed began the Koran at 35.  
 Shelley wrote "Queen Mab" at 18.  
 Keats wrote his "Endymion" at 22.  
 Alexander Dumas wrote plays at 22.  
 Disraeli wrote "Vivian Grey" at 21.  
 Heine published his first songs at 23.  
 Swift wrote the "Tale of a Tub" at 37.  
 Seneca wrote "De Beneficiis" after 50.  
 Richardson published "Pamela" at 51.  
 Racine wrote the "Andromache" at 28.  
 Paley wrote the "Horæ Paulinæ" at 47.  
 Coleridge published "Christabel" at 44.  
 Pliny finished the "German War" at 31.  
 Luther wrote his ninety-five theses at 34.  
 Poe wrote "The Raven" in his 36th year.  
 Confucius began his religious works at 30.  
 Owen Meredith published "Lucile" at 29.  
 Butler wrote "Hudibras" after he was 60.  
 Sterne published "Tristram Shandy" at 46.  
 Shakspeare wrote his first play at about 24.  
 Machiavelli completed "The Prince" at 45.  
 Boileau wrote his first satirical poems at 24.  
 Sir Thomas More finished his "Utopia" at 73.  
 Spenser published the "Faerie Queene" at 38.  
 Lord Bacon wrote the "Novum Organon" at 41.  
 Persius is thought to have written his satires at 45.  
 Corneille wrote "Melite," his first drama, at 21.  
 David is said to have written his first psalm at 18.

Goldsmith finished "The Deserted Village" at 42.  
 Sheridan wrote the "School for Scandal" at 26.  
 Josephus published his "Wars of the Jews" at 56.  
 Calvin published his "Psychopannychia" at 25.  
 It is said that Horace wrote his first odes at 23.  
 Tacitus finished the first part of his history at 50.  
 Livy is said to have finished his "Annals" at 50.  
 Lamartine's poems appeared when the poet was 30.  
 Thackeray was 36 when "Vanity Fair" appeared.  
 Homer is said to have composed the Iliad after 60.  
 Dante finished the "Divina Comedia" at about 51.  
 Samuel Johnson published "London" when he was 29.  
 Solomon is said to have collected the Proverbs at 50.  
 The Bucolics of Virgil were written between 43 and 47.  
 John Bunyan finished the "Pilgrim's Progress" at 50.  
 George Eliot was 39 when "Adam Bede" was printed.  
 Baxter wrote the "Saint's Everlasting Rest" at 34.  
 Robert Browning wrote the "Ring and the Book" at 57.  
 Adam Smith published the "Wealth of Nations" at 55.

Fichte wrote the famous "Wissenschaftslehre" at 32.  
 Von Ranke finished his "History of the Popes" at 39.  
 "The Brigands," by Schiller, made the author famous at 23.  
 Thomas à Kempis wrote the "Imitation of Christ" at 34.  
 Voltaire's first tragedy came out when the author was 22.  
 Hannah More wrote "The Search After Happiness" at 28.  
 Martial is said to have written epigrams before he was 26.  
 Bryant was 19 when made famous by "Thanatopsis."  
 Joseph Addison's first essays appeared when he was 29.—*St. Louis Globe-Democrat*.

MEASURES FOR HOUSEKEEPERS.—One quart wheat flour, of soft butter, broken loaf sugar, makes one pound; Indian meal, best brown sugar, one pound two ounces; white sugar, powdered, one pound one ounce; ten eggs, one pound; sixteen large tablespoonfuls make one-half pint; eight, one gill; four, one-half gill; common sized tumbler holds one half pint; common wine glass, one-half gill; sixty drops make one teaspoonful.

TO MEASURE CORN IN THE CRIB.—Two cubic feet of sound, dry corn in the ear will make a bushel of shelled corn. To get quantity of shelled corn in a crib of corn in the ear, measure length, breadth and height of corn crib inside the rail; multiply first by second and product by third; divide result by two—giving bushels of shelled corn. Corn shrinks much in winter and spring and settles down.

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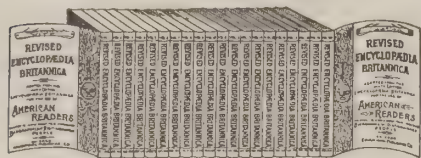


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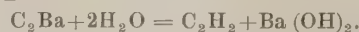
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INTEREST.—Short method. Multiply amount by number of days (counting thirty days to each month)—for interest in cents at 6 per cent, divide by 60; for 7 per cent increase this result by 1-6; for 8 per cent divide first result by 45; 9 per cent by 40; 10 per cent by 36; 12 per cent by 30. Another method: Reduce years to months, add in months, if any, to  $\frac{1}{2}$  of the days, and set to right of months in decimal form; multiply result by  $\frac{1}{2}$  principal, and you have interest at 6 per cent in cents. For 7 per cent increase this by 1-6; for 8 by  $\frac{1}{3}$ ; for 9 by  $\frac{1}{2}$ ; for 10 by 2-3; for 12, double it, etc.

## A NEW THEORY OF THE ORIGIN OF PETROLEUM.

An interesting compound of carbon with the metal barium, possessing the composition  $C_2Ba$ , is described, says *Nature*, by M. Maquenne in the current number of the *Comptes Rendus*. It may be considered, perhaps, as an acetylide of barium—that is, a compound formed by the replacement of the hydrogen of acetylide,  $C_2H_2$ , by metallic barium. For immediately it is brought in contact with water, pure acetylene gas is evolved with great rapidity. M. Maquenne has obtained the new substance by the direct action of metallic barium, employed in the form of an amalgam consisting of one part barium and four parts mercury, upon powdered retort charcoal. Upon distilling such a mixture in a current of hydrogen, when the mercury had been expelled and the temperature attained redness, an energetic reaction was found to occur between the barium and the carbon, with production of the new carbide or acetylide. The hydrogen took no part in the reaction, and M. Maquenne has subsequently found that it may be replaced by nitrogen; the latter, however, being less advantageous, inasmuch as the carbide produced is then admixed with more or less cyanide. The new substance, as obtained when hydrogen is employed to furnish the atmosphere, consists of a gray, friable mass, which remains quite unaltered when heated to bright redness. The moment, however, it is thrown into cold water it is decomposed, with a rapid effervescence of a gas which possesses the odor of acetylene, burns in the air with a luminous flame, precipitates a red substance resembling acetylide of copper from an ammoniacal solution of cuprous chloride, and, in short, possesses all the properties of acetylene. M. Maquenne adds that the acetylene thus obtained is remarkably pure. The reaction with water may be expressed by the equation—



Barium acetylide would appear to be analogous to the compounds obtained by M. Berthelot by heating the metals of the alkalies in a current of acetylene, and also to the acetylide of calcium prepared by Wohler. The direct formation of this substance from barium and carbon, together with its reaction with water, afford another mode of synthesizing acetylene, which M. Maquenne considers to be of interest from the point of view of the formation of the natural hydrocarbons. He considers it probable that other metals possess this same property of forming acetylides under the influence of high temperatures. If, therefore, as M. Berthelot has attempted to show, it is a fact that acetylene forms the primary material, or starting point, for the formation of other hydrocarbons, it is quite possible that such compounds of metals with carbon, upon coming in contact with water under conditions of more or less pressure, may give rise to the production of the immense stores of natural hydrocarbons, such as those which exist in the petroleum wells of Russia and the New World.

TO DETERMINE THE WEIGHT OF LIVE CATTLE.—Measure in inches girth around breast just behind shoulder blade, and the length of back from tail to forepart of shoulder blade. Multiply girth by length and divide by 144. If girth is less than three feet, multiply quotient by 11; if between three and five, by 16; between five and seven, by 23; between seven and nine, by 31. If animal is lean deduct one-twentieth from result; or take girth and length in feet, multiply square of girth by length, and multiply product by 3.36. Live weight multiplied by .005 gives net weight—nearly.

## APPROPRIATE CHRISTMAS GIFTS.

DON'T GIVE A SHAVING MUG TO A FULL BEARDED MAN—SOMETHING FOR FRIENDS.

All who think of giving tangible Christmas presents are now absorbed in the business of selecting them. Every one wants to have his presents acceptable to the recipient, and a few points kept well in mind ought to insure that result. In the first place let your present be appropriate. Do not give a shaving set to a man with a full beard, nor a cask of wine to a temperance crusader. Do not give "moths" to a divinity student nor a new hat to the man who bet on Cleveland. Do not give a false bang to a pretty girl nor an artificial leg to a sound man.

It is important that your holiday remembrance should be such as appeals to your friends' tastes or needs, in order to fulfill its mission. Having settled on the class or kind of gift best suited in any instance, the next thing to be considered is your ability to afford it and the best way to get it for the least money; because at no time is business care and shrewd financeering more desirable than in holiday purchasing. You do not want to pay something for nothing, even if you are going to give the latter away free gratis.

When you are considering making your Christmas presents it may be well to think a minute at least about the *Revised Encyclopedia Britannica*, which is now made available at very advantageous terms to readers of the ANALYST. If you intend giving a little, simple remembrance to a friend for whom you have only a passing regard, then you do not want these books for this purpose, but if the person whom you intend to favor is one in whom you are really interested, then you can do no better than think right here whether a set of the *Revised Encyclopedia Britannica* would be adaptable.

They are adaptable for all persons of good taste, and who are ambitious to improve their minds and their condition in the world.

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## BOOK REVIEWS.

THE ART GALLERY AT THE WORLD'S FAIR HELD IN CHICAGO. Illustrated. Edited by Charles M. Kurtz, Assistant Chief of the Art Department, and published by George Barrie, Philadelphia. Price in paper, \$1.25; cloth, \$2.50.

The publisher of this very artistic book deserves the thanks, not only of all who visited the great exposition, but of all who stayed at home and who can appreciate a book which gives, in the highest style of photogravure, so excellent an idea of the best of painting and statuary on exhibition at Chicago. The new processes have been utilized for reproducing these works of art, and they represent the work of the best artists of the nations which had art exhibits at the Fair. Nearly 2,000 works of art were photographed on a large scale, and from that immense collection the Chief of the Department of Fine Arts (Professor Ives) selected the subjects which should best represent the greatest works of the leading artists of the world. The illustrations are magnificent half-tone reproductions, by photography. While they lack, of course, the charm of color which distinguishes the originals, they are absolutely faithful reproductions in every particular. A choice little publication containing 336 relief-gravures of the chief works of art. There really

is nobody for whom the collection of pictures will not possess interest. It will be studied with great interest by those who have not had the pleasure of seeing the famous show.

DR. BARROWS' GREAT HISTORY OF  
THE WORLD'S PARLIAMENT  
OF RELIGIONS.

The Parliament Publishing Company of Chicago is rushing with great success the preparation of Dr. Barrows' complete and authentic report of the proceedings of the Parliament of Religions. The big sheets coming from the press tell at a glance a story of pictures, of beautiful paper and print, which will fascinate the eye as much as the textual contents will enchain the mind of the reader. No such wealth of illustrations has ever enriched a book of serious interest. The ends of the earth have sent to Dr. Barrows rare photographs of objects unique in the story they tell of far-away humanity, its art, its worship, its social phases, and its notable persons, and these are being reproduced with wondrous fidelity and beauty. People who permit any of the cheap piratical attempts to supply a report of the Parliament to appeal to their pockets, by however low a price, will be made unhappy by the sight of the exquisite pages of the genuine report. Any

other report will be waste paper compared with the marvelously illustrated volumes for which the most extensive and costly preparations had been made before the Parliament met.

## TABLE TALK.

At this season, everything, either by word or in aspect, dons its holiday attire—and *Table Talk* among the rest. The December number is full of suggestions for Christmas—dainty dinners, decorations, appropriate gifts—in fact almost any help you need in your preparations for a "A Merrie Christmas" you will find between its covers. It is published by Table Talk Publishing Company, Philadelphia, at \$1 per year or 10 cents a copy.

## AN EASTERN DAINTY.

The Chinese are certainly a strange people; strange in appearance, customs and tastes. One of their greatest delicacies of food, regarded from a Chinese epicure's point of view, is "milhi," which, in plain English, means "new born mice, yet blind." These are placed alive on little trays and set before each guest, who dips them one at a time into a jar of honey and then swallows the tiny creatures.

When the Emperor's wedding was celebrated a few years ago fifty thousand of the helpless creatures were thus consumed.

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## UNREALIZED ANTICIPATIONS.

That Long Islanders are not wholly devoid of humor, which has been charged against them, is clearly demonstrated by a recent occurrence at Riverhead, the Suffolk county seat.

It seems that the local debating society had under consideration the old topic, "Whether there is greater pleasure derived from anticipation than from realization?" This weighty subject was discussed at length, and was finally carried in favor of anticipation by a heavy majority.

Now, it happens that a favorite dish of Riverheaders is rabbit stew, and that one of the losing faction, Nate Downs, is esteemed as the best concocter of rabbit stew on the eastern end of Long Island.

Not long after the famous debate Nate invited the whole company to visit his house and partake of the favorite dish. Anticipation ran high, and at the appointed hour the club assembled en masse, but alas for realization! there was no rabbit stew, only the usual paraphernalia of serving it—dishes, knives, etc.

Nate had sought by this practical method to force the society to reconsider its hasty decision, and was eminently successful. The company left, very angry, but with the settled conviction that so far as rabbit stew was concerned realization would be more satisfactory than anticipation.

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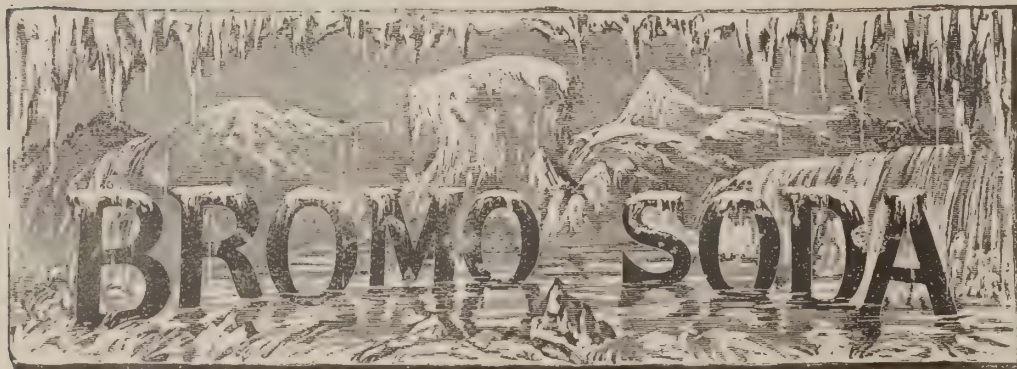
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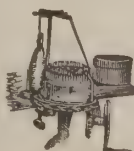
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R. W. ROBINSON &amp; SON,

184 Greenwich St., N. Y.



THE GREAT MEDICINAL FOOD

## IMPERIAL GRANUM



PURE, DELICIOUS,  
NOURISHING  
FOOD

IS UNRIVALLED IN  
THE SICK-ROOM  
THE SAFEST FOOD FOR  
INVALIDS

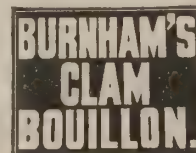
AND CONVALESCENTS.  
FOR NURSING MOTHERS.

INFANTS AND  
CHILDREN  
FOR DYSPEPTIC, DELICATE INFIRM AND  
AGED PERSONS.

SOLD BY DRUGGISTS. SHIPPING DEPOT: JOHN CARLE &amp; SONS, NEW YORK.

FOR  
WOMEN ONLY.

In morning sickness, nausea and vomiting in pregnancy Burnham's Clam Bouillon is a specific that gives instant relief and tones the stomach for other foods. Take it first thing in the morning, hot or iced as preferred, dilute to suit taste; it soothes the stomach and drives off all feeling of nausea. A little fresh milk or butter renders it more palatable to some. Serve in cup and season to suit. It supplies the place of tea, coffee or cocoa at breakfast.



Never Buy Clam Bouillon for the sick, except in Glass Bottles.

Grocers and Druggists  
25c., 50c. and \$1.00  
sizes.















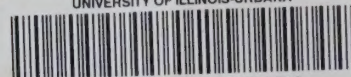








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